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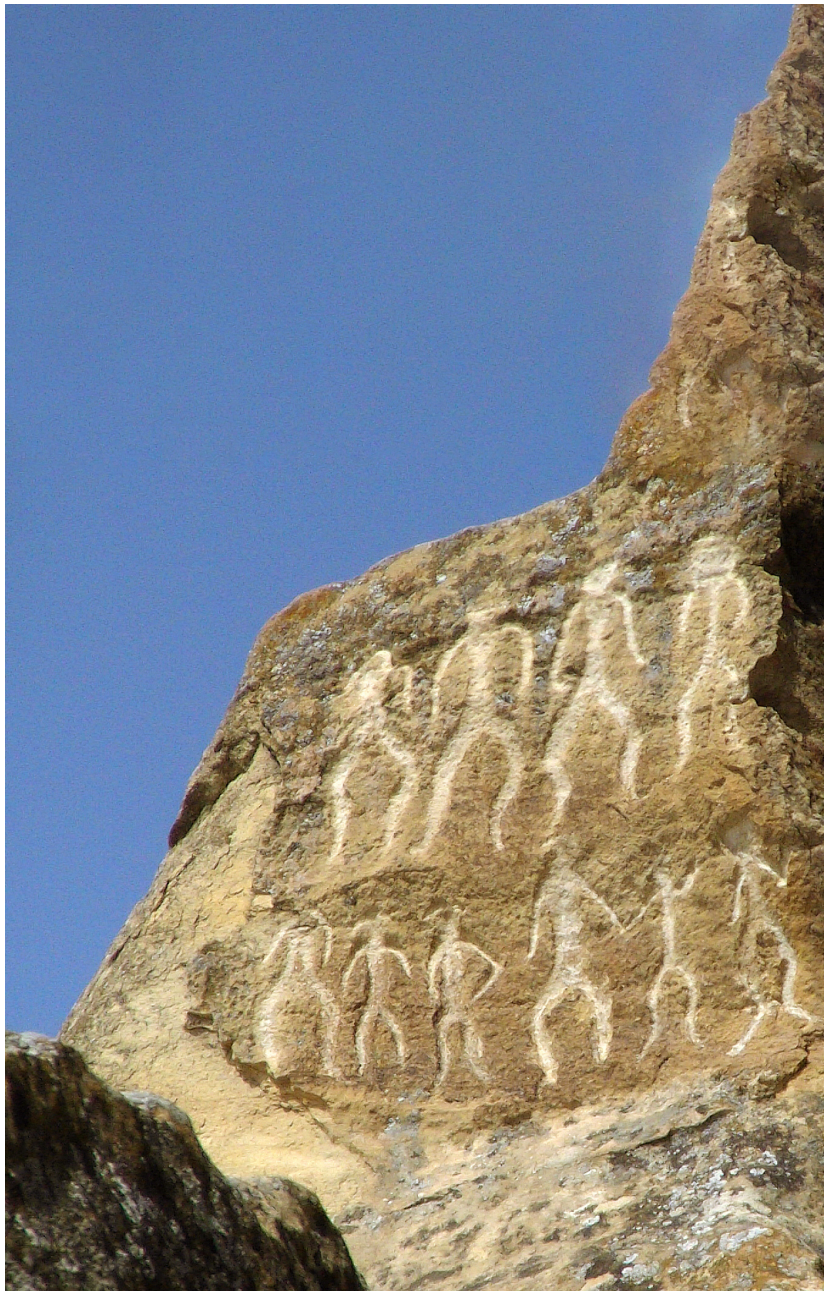

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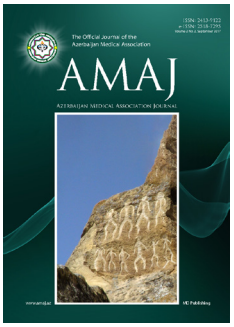
The Cover: Gobustan Petroglyphs.

Gobustan Rock Art Cultural Landscape covers three areas of a plateau of rocky boulders rising out of the semi-desert of central Azerbaijan, with an outstanding collection of more than 6,000 rock engravings bearing testimony to 40,000 years of rock art. The site also features the remains of inhabited caves, settlements and burials, all reflecting an intensive human use by the inhabitants of the area during the wet period that followed the last Ice Age, from the Upper Paleolithic to the Middle Ages. The site, which covers an area of 537 ha, is part of the larger protected Gobustan Reservation. In 2007, UNESCO included the 'Gobustan Rock Art Cultural Landscape' in the World Heritage list.



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Case Report
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Differential Diagnosis of Psychotic Disorder with High Creatine Kinase and Subfebrile Fever: A Case Report

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Catatonia is a syndrome, comprised of symptoms such as excessive motor activity, extreme negativism, motor immobility, and stereotyped movements. The malignant form of catatonia (MC) is considered to be a fatal and rapidly progressive subtype. It is a rare condition that pres¬ents subtle signs and symptoms and different etiologies, and is therefore underdiagnosed. Neuroleptic malignant syndrome (NMS) is an uncommon but potentially fatal idiosyncratic reaction to neuroleptics and characterized by a distinctive clinical syndrome of mental status change, rigidity, fever, and dysautonomia. MC resembles NMS in many ways but was described long before the introduction of neuroleptics. Cotard and capgras delusions may be associated with MC and NMS. The present case report demonstrates the difficulty of correctly diagnosing MC, NMS and emphasizes the importance of symptom chronology while going to take a diagnosis.

Keywords: Cotard syndrome, capgras syndrome, malignant catatonia, neuroleptic malignant syndrome, subfebrile fever.

Introduction

Catatonia is a neuropsychiatric syndrome characterized by psychomotor abnormalities which may appear due to neurological and other medical causes in addition to psychiatric causes [1]. Malign catatonia (MC) is a less common but fatal variant of catatonia. With additional symptoms such as hyperthermia, tachypnea, tachycardia, hypertension or unstable blood pressure, diaphoresis, and stupor, MC is a clinical condition which has many common characteristics with neuroleptic malign syndrome (NMS) but was defined before neuroleptic use [2]. NMS is an emergency which may generally occur after potent psychotropic drug use. With a pathophysiology which cannot be explained exactly, it is a syndrome observed in 0.2% of psychiatry patients and can be fatal despite treatment. Altered mental status, muscle rigidity, tremor, tachycardia, hyperpyrexia, leucocytosis, and increased serum creatine phosphokinase (CPK) level can be observed in patients [3, 4].

NMS and MC are conditions which are rare, difficult to diagnose, and may have a fatal course, and thus early diagnosis is important. In this case presentation, the chronological order of events was examined in an adolescent patient with coexisting lethal catatonic symptoms, infection, and NMS symptoms. The relation between psychosocial stress factor, catatonic symptoms, afebrile NMS findings, and respiratory tract infection were discussed in the light of literature.

Case report

A 15-year-old male patient was admitted to Ege University Medical School Hospital because of a change in mental status and mutism. Four months prior to admission, he was irritable, dysphoric, and showed tremendous lability of mood. He had no prior history of psychotic symptoms. Weird and blocked talking, aimless wandering in the dormitory, school non-attendance, refusal to eat and physical inactivity were added to the clinical presentations. The

boy was admitted to an adult psychiatric outpatient clinic of a local general hospital with catatonic symptoms, treated with olanzapine 5 mg/day, and fluoxetine 20 mg/day. His catatonic symptoms exacerbated on the days he was going to return to the school and the patient had decreased need for sleep on the following days. The members of his family stated that he said "Burn me, cut me" and "I'm the devil", he was afraid of mirrors and couldn't sleep during that period. Gradually stopping other drugs, the patient was managed by amisulpride 400 mg/day and antibiotics due to upper respiratory tract infection. His catatonic symptoms recurred, body temperature was 37.1°C, and he had urinary incontinence twice. Lumbar puncture, head computed tomography scan, and diffusion-weighted magnetic resonance imaging results made were all negative. He was subsequently transferred to Ege University Medical School for further evaluation and treatment.

On admission to the emergency service of Ege University Medical School, he was confused and not following commands. His evaluation consisted of a detailed psychiatric, medical, substance abuse, and psychosocial history as well as relevant laboratory studies. Family history revealed a paternal aunt had psychotic features. Vital signs included blood pressure 120/80 mmHg, heart rate 97 beats/minute with regular rhythm, and temperature of 36.7°C. Neurological examination was significant for diffuse muscular rigidity, catatonic excitement, catatonic posturing, hypertonia of limbs, and trunk, tremor, mutism, diaphoresis, and urinary incontinence. Results of standard blood tests (electrolytes, creatinine, urea, thyroid, and liver function) and urinalysis were within normal limits. His serum CPK was 3710 U/L (normal range 24 to 170 U/L) and white blood cell (WBC) count was 10,500/mm^3 (normal range 3,500 to 10,000/mm^3) (Table 1). Also, his thyroid stimulating hormone and electrocardiogram were normal.

Based on his clinical symptoms, laboratory results, and a history of neuroleptic use, a diagnosis of NMS without hyperthermia was postulated with a differential diagnosis of MC and encephalitis. The patient was treated with 2.5 mg/day of bromocriptine and 5 mg/day of diazepam twice daily. During the next ten days, the serum CPK level declined to 56 U/L, the WBC count declined to 5,760/mm^3 (Table 1).

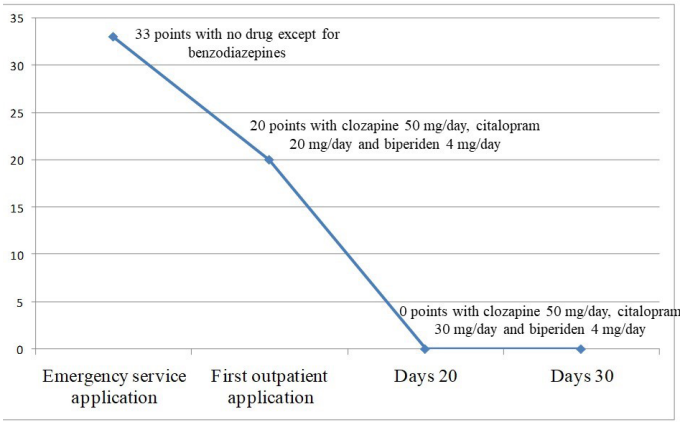

Figure 1.
Pediatric Catatonia Rating Scale (PCRS) Scores.

The symptoms such as "being dead and other people replacing the patient's mother and father" were observed during hospitalization. Due to bradycardic course and pulse rate not exceeding 55 with atropine, the anaesthesia department decided that this was not suitable for electroconvulsive therapy, and clozapine 12.5 mg/day was started. With clozapine 50 mg/day, citalopram 20 mg/day, and biperiden 4 mg/day, discharge and outpatient follow-up were decided for the patient upon the request of his family. The patient had 20 points in PCRS applied (Figure 1) in subsequent psychiatric interview. Drug therapy was rearranged as clozapine 50 mg/day, citalopram 30 mg/day, and Biperiden 4 mg/day, and an appointment was arranged for the following week. In the next interview, it was learned that the catatonic symptoms of the patient recovered dramatically and 'schizoaffective disorder' accompanied by Cotard and Capgras delusions was observed in 'Kiddie-Sads-Present and Lifetime Version (K-SADS-PL)' applied in the fourth month of the disease while the present treatment was continued [5].

Discussion

Catatonia is a syndrome, comprised of symptoms such as motor immobility, excessive motor activity, extreme negativism, and stereotyped movements [6]. Presented as a subtype of schizophrenia in DSM-IV-TR and thus having a limited area of diagnosis, catatonia was covered under a separate title in DSM-V and other conditions it accompanies other than schizophrenia were also mentioned (Table 2). Malign catatonia (MC) is a less common but fatal variant of catatonia. Aside from catatonic hyperactivity and stupor, the clinical features of MC described in literature are hyperthermia, altered consciousness, tachypnea, tachycardia, hypertension, unstable blood pressure, and varying degrees of cyanosis. MC resembles NMS in many ways. The diagnostic criteria for NMS are not universally agreed upon. In general, most sets of diagnostic criteria include altered mental status, hyperthermia, muscular rigidity, and autonomic instability, with many associated features (e.g., elevated CPK levels, and leukocytosis). Although hyperthermia is generally considered a major criterion for the definitive diagnosis of NMS, there are case reports of NMS without hyperthermia in the literature. These reports of supposed atypical NMS give credence to the idea proposed by many authors that NMS represents a spectrum of pathological processes [7].

Our patient developed altered mental status, diffuse muscular rigidity, mutism, catatonic excitement, catatonic posturing, tremor, diaphoresis, and incontinence following the introduction of therapy with antipsychotics. Results of laboratory tests showed elevated CPK levels, and leucocytosis. Emotional stress may prepare the background for the catatonic symptoms as in our patient. In some catatonic conditions, it was reported that patients had periods of opening, and closing regardless of the treatment [8]. Results acquired from lumbar puncture and imaging methods provided us to exclude encephalitis and other organic brain syndromes. Altered mental status, waxy flexibility, mutism, negativism, refusal to eat, muscle rigidity, urinary

Table 1. Laboratory data during the treatment course.

Items	1st 10:00pm	2nd 00:50am	2nd 02:00am	2nd 03:00am	2nd 06:40am	3rd	4th	6th	9th	13th
Serum CPK (U/L)		4566	4215	3809	3710	3270	3100	2500	357	56
AST (U/L)	82		69	65	69	43	48	35		14
CRP (mg/dL)	3.5		3.87		3.87	3.4	3.94	3.15		
Urea (mg/dL)	40.5		44.7	44.1	44.7	31	19	17		13
Creatinine (mg/dL)	0.79		0.92	0.86	0.82	0.5	0.48	0.42		0.54
Uric acid (mg/dL)	8.5		9	9	8.9	5.4	4	4.5		6.6
WBC (K/mm^3)	12.9				10.5	10.7	12.6	8.99		5.76

CPK - Creatine Phosphokinase, CRP - C-Reactive Protein, WBC - White Blood Cell.

incontinence, diaphoresis, instable blood pressure occurring together with high CPK, and hyperthermia occurring both after a drug change, and respiratory tract infection made diagnosis harder.

Studies emphasized that MC and NMS have similar clinical characteristics and their clinical and laboratory differentiation is difficult. A study on MC cases showed that it was not possible to clinically distinguish NMS and MC in 20% of the cases. Some studies have revealed that NMS occurred after MC. Again, some studies pointed out that NMS and catatonia may occur together. Some authors stated that NMS and MC are medical disorders in the same spectrum [9]. Mathews and Aderibigbe [10] stated that NMS is a severe subtype of catatonia. Castillo et al. [11] stated that extreme psychotic excitation is related to MC and extreme muscle rigidity is related to NMS. Mann et al. [12] emphasized that MC could occur due to NMS. Bristow and Kohen [13] stated that catatonia is a risk factor for NMS development. Another study stated that symptoms such as diaphoresis, muscle rigidity, fever, CPK increase, and leukocytosis increased significantly in NMS, and symptoms such as negativism, catatonic posturing, waxy flexibility, and stupor increased significantly in catatonia. Although none of these symptoms are specific to these diseases, it is considered that the rigidity is intermittent in MC, continuous in NMS, prodrome period is shorter in NMS, agitation is more severe in MC, and the related destructive way of behaviour is more frequent [14]. In our study, it was considered that the throat infection which started a few weeks after these symptoms induced MC. Apathy, ambivalence, agitation, and catatonic excitation in the probable prodromal period (15 days before urinary incontinence) allow us to interpret the initial situation as MC. Subsequently, MC, insufficient oral intake, and dehydration have triggered NMS. The lead pipe rigidity occurred at this period was a symptom of NMS. In the final situation, it is thought that there were comorbid syndromes including NMS and MC.

It is important to be aware that early recognition of the prodromal signs and identification of the relevant risk factors may help abort early cases. In other words, detecting cases before the full syndrome becomes manifest and active treatment may lead to a lower mortality [15]. Consistent with this, a review of the NMS literature demonstrated that the mortality rate was 44% (4/9) in case reports from 1973 to 1980; it was 5.5% (1/19) in those from 1981 to 1990; and there was no mortality those from 1991 to 1998 [16].

Table 2. The Catatonia Diagnosis in DSM-V.

1. Catatonic disorder due to a general medical condition

2. Specifier "with Catatonia" for
   a. Schizophrenia
   b. Schizoaffective disorder
   c. Schizophreniform disorder
   d. Brief psychotic disorder
   e. Substance-induced psychotic disorder

3. Specifier "with Catatonia" for current or most recent major depressive episode or manic episode in
   a. Major depressive disorder,
   b. Bipolar I disorder
   c. Bipolar II disorder

4. Catatonic disorder not otherwise specified

The elevation of CPK levels is often seen in NMS and MC secondary to skeletal muscle damage. Nearly 94% of children with NMS demonstrate elevations in CPK levels [17]. CPK may also be elevated by the use of intramuscular injections or physical restraints but usually at lower levels (below 600 U/L) than in NMS [18]. The initial treatment of NMS and MC is aimed at discontinuation of the offending agent and supportive therapy that includes careful attention to electrolyte balance, urine output, and renal functions. After the discontinuation of the inciting agent, the recovery typically occurs within two weeks. In our case, as in others, bromocriptine and diazepam were the drugs of choice. Bromocriptine is recommended as a

first-line treatment, while the benefits of using dantrolene are unproven. Bromocriptine is a strong dopamine D2-receptor agonist and partial dopamine D1-receptor agonist that enhances the dopaminergic transmission [17].

Conclusion

As it can be understood from the examples above, a consensus has not yet been compromised on MC and NMS differentiation. In our case, emotional stress experienced before catatonia development was evaluated as a risk factor. It was considered that symptoms occurred two weeks ago such as apathy, ambivalence, agitation and psychotic excitation were prodromal symptoms of MC. Again, it was considered that the respiratory tract infection which started a few weeks after these symptoms induced MC and the lead pipe rigidity occurred after these symptoms during this period was a symptom of NMS.

NMS and MC are conditions which are clinically difficult to distinguish or which sometimes cannot be distinguished at all. It should not be forgotten that NMS and MC can be seen comorbidly. This study is important for indicating chronological order of symptoms in diagnosis. MC may have triggered NMS and NMS may have been added on MC symptoms. In our study, it was also observed that catatonic symptoms recovered quickly with clozapine treatment without ECT. It shouldn't be forgotten that NMS can occur as atypical cases with an afebrile or subfebrile course.

Finally, additional research is needed to elucidate the differential diagnosis of NMS and MC.

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Case Report
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Cardiac angiosarcoma: a case report and short review of diagnostic modalities and therapy possebilities

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Primary cardiac neoplasms are rare, and angiosarcoma is the most common malignant cardiac tumor, which is very invasive and has a poor prognosis. We report a 54-year-old man with the huge mass in the right atrium. The patient underwent median thoracotomy and tumor was resected, which microscopic section showed angiosarcoma.

Keywords: cardiac tumor, angiosarcoma, immunohistochemistry.

Introduction

Primary cardiac neoplasms are rare, with an incidence of 0.0001–0.030% at autopsy [1]. Angiosarcoma is the most common malignant cardiac tumor, is very invasive and has a poor prognosis [2]. Typical localization is the right atrium [3]. Clinical symptoms are non-specific, usually presenting as cardiac tamponade or right-sided cardiac failure [4]. Diagnosis is often made after the disease has progressed. One of the most sensitive diagnostic tools is echocardiography. CT and MRT can be used to detect sites of metastasis. Histologically, angiosarcomas present in three patterns: a vascular area with anastomosing channels, a solid high-grade epithelioid area, and a spindle cell Kaposi-like area [4]. Immunohistochemical staining can be used as an adjunctive diagnostic tool. Surgical resection is the therapy of choice. The therapeutic effect of chemotherapy and radiotherapy is poor and multimodal therapy is under investigation.

Case report

A 54-year-old man with dyspnea, abdominal pain and echocardiographic diagnosis of pericardial effusion and a huge mass in the right atrium was referred to our institution. Physical examination revealed hepatomegaly and cardiac murmur over the 4th ICS at the left sternal border. X-ray showed cardiomegaly. Angiography showed no pathological findings in the coronary arteries. Transthoracic echocardiogram demonstrated a large mass (3.5×10 cm) (Fig. 1) in the right atrium which prolapsed into and almost filled the entire right ventricle. 1 cm pericardial effusion was also present.

The patient underwent emergency surgery. Median thoracotomy was performed. Sanguineous pleural fluid was evacuated. Via right atriotomy the right atrial mass was well visualized. Part of the right ventricle was disguised by the tumor. The tumor (23×4×4cm) with a part of the right atrium was resected (Fig. 2). The part which invaded right ventricle was impossible to resect. The patient tolerated the procedure well. Microscopic section showed angiosarcoma. Immunohistochemistry showed strong positive CD31, CD34, CD 99, ERG-TLE1 markers and Ki-67 proliferation index was 20-50% (Fig. 3). He was transferred to medical oncology for adjuvant therapy on the 7th post-operative day.

Discussion

Angiosarcoma is the most common malignant cardiac tumor and has a poor prognosis [4]. It is a very invasive endothelial neoplasm which has high incidence of systemic metastases [3]. Symptoms are non-specific and diagnosis is mostly delayed. Echocardiography is a sensitive di-

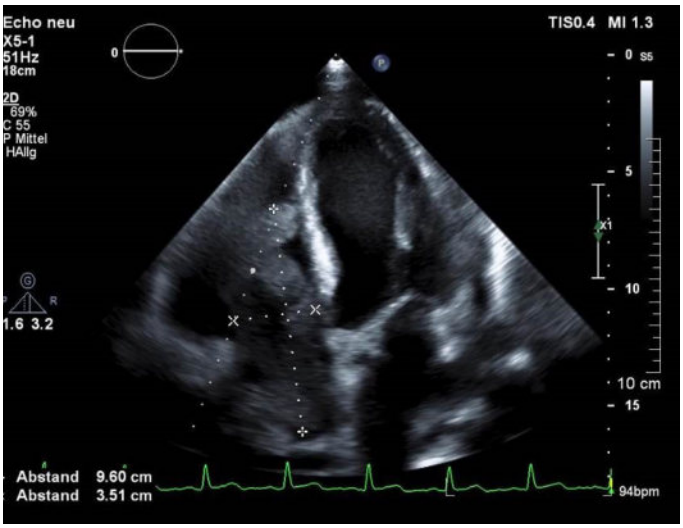

Figure 1.
Echocardiography four- chamber view. Huge mass in the right atrium expanding to the right ventricle.

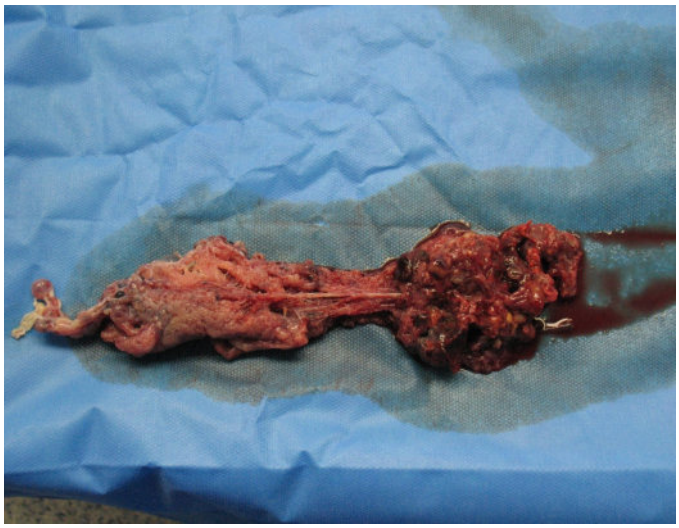

Figure 2.
Huge angiosarcoma after surgical extracting from right atrium.

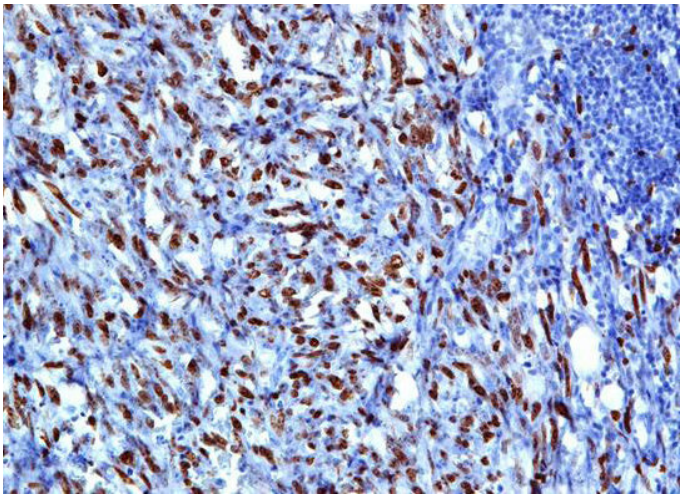

Figure 3.
Immunohistochemical analysis using Ki-67.

agnostic tool and can easily be used for initial diagnosis. CD31, CD34 and FLI-1 are the markers most commonly used to detect tumors of endothelial origin. Ki67 is a marker which used as a prognostic factor. Values of more than 10% are correlated with poor outcome. Angiosarcomas are often resistant to radiation and chemotherapy. Although possibilities are limited, the treatment of choice is surgical resection and multimodal therapy is currently under investigation [4].

Conclusion

From this case it is evident that angiosarcomas can present as a huge cardiac mass and complete resection remains challenging since tumors can encase essential cardiac structures. So, it is essential pay attention to leading non-specific symptoms in young patients and to diagnose disease before its progression which makes adequate surgical therapy impossible.

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Case Report
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Acute appendicitis complicating Amyand's hernia: rare condition

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Amyand's hernia is a rare form of inguinal hernia in which the vermiform appendix is located within the hernia sac. It is seen in less than 1% of inguinal hernia cases. It was first reported in the literature in 1735 by surgeon Claudius Amyand and hence named after him. Diagnosis is confirmed intraoperatively. Here present the case of a patient operated for irreducible right sided inguinal hernia complicated with inflamed appendix found in the hernia sac.

Keywords: Amyand's hernia, inguinal hernia, acute appendicitis.

Introduction

Repair of inguinal hernia is continued to remain one of the most common operations in the general surgery. The inguinal hernia sac usually contains omentum or small bowel. In rare cases however the hernia sac may contain vermiform appendix. In medical literature this is known as "Amyand's hernia" [1]. In this article we are describing the case of this rare type of hernia.

Case report

A 43 years old male was admitted to the clinic with complaints of right sided inguinal swelling and pain. During the last several days preceding the patient's presen- tation, the pain had become worse and was accompanied with nausea and loss of appe- tite. He denied any other diseases. Physical examination revealed right sided irreducible inguinal hernia. Laboratory tests were only significant for leukocytosis of 16,300 /μL with the rest of tests being normal. After preoperative preparation and antibiotic prophylaxis, the patient was taken to the surgery under the general anesthesia. Right sided inguinal hernia canal was opened revealing the hernia sac located anteromedially to spermatic cord. Hernia sac was dissected from surrounding tissues and cut open to explore the contents. The vermiform appendix with caecum was found in the hernia sac (Fig. 1). Appendix was hyperemic and found to have catarrhal inflammation. Classic appendectomy with subsequent Lichtenstein repair of inguinal hernia was performed. The patient was discharged two days after uncomplicated postoperative hospital stay.

Discussion

Hernia is the abnormal exit of tissue or an organ through the defect in the wall of the abdominal cavity in which it normally resides. Inguinal hernia sac containing vermiform appendix is a rare form of hernia and seen in 0.5-1% of all cases. It was first described by Claudius Amyand and given his name in the honor of the surgeon who first reported this interesting entity in 1735 [1]. The case of an inflamed appendix (appendicitis) within an inguinal hernia in adults is much lower and accordingly to different studies ranges between 0.08% and 0.13% [2]. Amyand's hernias usually found in male patients and present on the right side due the normal anatomic position of the appendix [3].

In most cases the appendix found in the hernia sac is normal. However, the reduction of the appendix's blood supply due to

non-reducibility of the hernia and compression in the external ring originating from increases in intra-abdominal pressure may lead to appendicitis [4].

The diagnosis of Amyand's hernia can be made by ultrasonography (USG), computed tomography (CT) or magnetic resonance imaging (MRI). However, in many cases physical examination accompanied with USG provides sufficient information about clinical presentation [5].

Given the rarity of the Amyand's hernia, there have been no reported randomized clinical trials in the medical literature. Therefore there is no standard surgical approach to the treatment of this type of hernia [5-6]. In case of appendicitis the standard appendectomy shall be performed, while most authors propose to refrain from appendectomy in cases of normal appendix.

There is no unified opinion with regards to the use of prosthetic material for repair of Amyand's hernia. The conflicting opinions are provided in the medical literature related to the use of prolene mesh in infected fields [7]. Many authors argue that use of prolene mesh in infected fields may lead to increased risk of surgical site infection secondary to the inflammatory response and contamination [8]. Campanelli et al. reported no significant infectious complications followed the hernia repair with prolene mesh in patients with concurrent bowel resection performed for various reasons [9].

In our case of 43 years old male patient, the Amyand's hernia was found only intraoperatively with hernia sac containing catarrhal appendicitis. Patient underwent appendectomy. Given the absence of perforation and local purulent discharge, the posterior wall repair was done using prolene mesh. Postoperatively patient received antibiotic therapy and discharged with no complications.

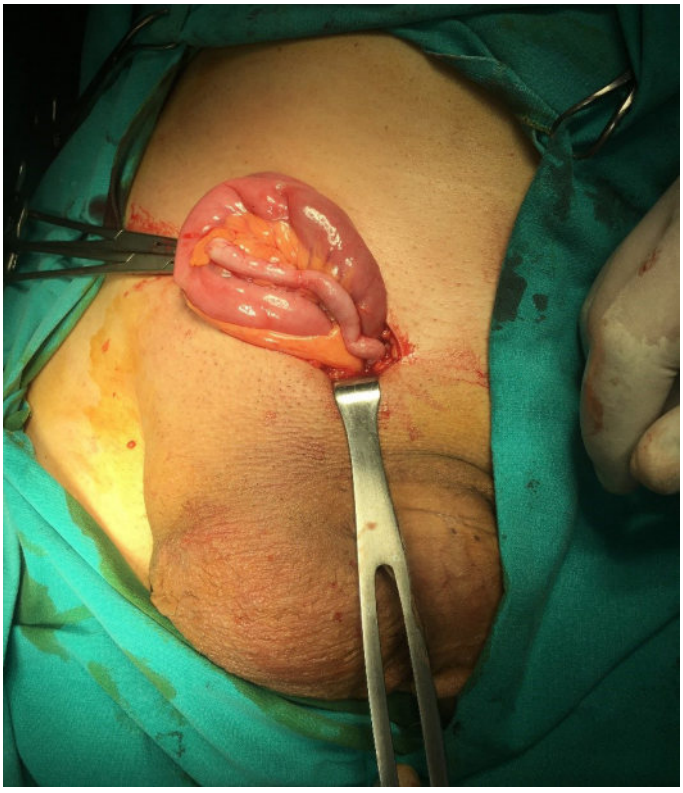

Figure 1.
The vermiform appendix with caecum in the hernia sac.

Conclusion

Amyand's hernia is a rare condition which is often diagnosed intraoperatively. Surgeons need to be aware of this clinical entity as well as of the surgical treatment options.

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Original Article
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Comparison of the surgical outcomes of minimal excision and elliptical excision techniques in treatment of epidermal inclusion cysts: A prospective randomized study

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OBJECTIVE: To compare results of surgery of minimal excision technique and elliptical excision in surgical management of epidermal cysts.

METHODS: In a 24-month period, from 2012 to 2015, 364 patients with benign and not infected epidermal cysts were surgically managed with minimal excision (n= 178) or elliptical excision (n=186) technique. Patient information, volume, and place of lesion, length of wound, time of surgical procedure and recurrence were evaluated.

RESULTS: The mean lengths of the wounds in the minimal excision and elliptical excision groups were 2.4 ± 0.50 and 2.6 ± 0.40 cm, respectively ($P<0.05$). Mean operative time was significantly shorter in the minimal excision technique (6.0 ± 2.00 minutes) compared to that of elliptical excision technique (11 ± 3.00 minutes) ($P<0.05$). There was no difference with significance level 0.001 in the recurrence rate in minimal excision (2.6 ± 0.30 %) compared to that of elliptical excision technique (2.4 ± 0.20%) ($P>0.05$).

CONCLUSION: Minimal excision produced a superior cosmetic result. Epidermal inclusion cysts measuring less than 3 cm that were observed on the head or cosmetically important zone were optimally managed with minimal excision technique.

Keywords: Epidermal cyst, minimal excision, elliptical excision

Introduction

It has been reported that epidermal cysts are mostly benign tumors that are usually observed on the body, behind the ears, cervical area and complexion with dome like appearance [1]. Operative management is mostly adopted to treat the affection that usually ends up scar formation [2-5]. Attachment of the apical part of an epidermal cyst is to the dermal layer of cutaneous and the rest of the cyst is placed immediately under the skin with a loose attachment to the subcutaneous.

This affection is also called sebaceous cyst and includes epidermal cyst, keratin cyst, epithelial cyst, and epidermoid cyst. These cysts originate from a ruptured pilosebaceous follicle associated with acne. The obstructed duct of sebaceous gland in the hair follicle is turned into a narrow and lengthened canal that finds a way to the surface of the cutaneous [1]. These cysts also originate from exertion of trauma to the surface of cutaneous or a developmental defect of the sebaceous duct. The contents of the cysts consist of keratin and lipids, and because of decomposition and bacterial infection of these contents, they become odorous. They are ruptured spontaneously and a doughy discharge is appeared on the cutaneous. [1]. This affection ends up a severe inflammation and subsequent scar formation results in complication in surgical management of the affection [1].

To the best knowledge of the authors, the literature is poor regarding comparison of the long-term surgical management of the minimal excision technique and elliptical excision in a prospective, randomized study. The object of the study was to compare

results of surgery of minimal excision technique and elliptical excision in surgical management of epidermal cysts.

Material and Methods

Spontaneous rupture o the epidermal cysts could be as a result of infection. Surgical removal of the cyst takes time and suturing is needed to close the defect [6]. One of the successful and less invasive methods is the minimal excision technique. In this method a 2- to 3-mm incision is made and cyst contents and wall are expelled out. In this method fingers are pressed form sided of the lesion to make the wall loose and then the sac is removed easily. The resultant cutaneous defect could be closed using one stitch. After application of compression a sterile tampon is placed on the resulted wound [1]. Adoption of a minimal excision operation as a technique to expel out the cysts has been reported by others [1,7] Overall, this technique bears advantages like simplicity of the method, less scar formation and accelerated wound healing time.

Patients

During June 2012 to September 2015, 364 patients (18 to 78 years of age) with non-infected epidermal cysts were entered to the present investigation. The patients were informed and they were consent to enter to the study. Exclusion criteria were: cysts larger than 3 cm, infected or inflamed cysts, recurrent cysts, cysts suspected to malignancy, those with uncertain diagnosis, cysts located in the forehead and patients who could not be followed up. The patients were randomized into two odd and even numbers. Those with odd number received minimal excision operation and those with even number received the conventional method.

Surgical Procedures

All the surgical operations were done by first author. The minimal excision operation was done based on a method described by others [1]. Briefly, the skin overlying the site was prepped and anesthetized with 1 percent lidocaine without epinephrine. A stab incision (3- 5 mm) was made on the central part of the cyst. A hemostat was inserted into the cyst and the tips of the hemostat were opened. Then with application of compression the cyst contents were expelled out via the opening. Following removal of the hemostat, the surgeon used his thumbs to expel out contents of the cyst contents. If required the hemostat could again be inserted, to help with discharge of the materials. After forceful and complete discharge of the contents, the capsule of the bottom of the cyst was expelled out using hemostat. The whole membrane of the cyst was taken out via the opening. Finally, the surgeon inspected the wound ta make sure that the whole wall of cyst was taken out. Using a sterile tampon and with direct pressure the wound was compressed. Then a topical antibiotic ointment was put on the wound and the patient was asked to hold direct pressure for some time along with tampon.

The conventional elliptical excision was also done based on a method described by others [6]. The surgical preparation and anesthesia were performed the same as minimal excision technique. However, the wound was closed using sutures. Based on volume of the cyst, cutaneous tension line, an elliptical excision was made. The major axis of the excision was as small as possible to achieve optimum cosmetic result. Patient`s data records and follow-up, age and gender of the patient, time of operation, date of surgical procedures, place and the original volume of the cyst and length of the sutured wound were recorded. After a period of 24-month follow-up all 364 patients were contacted by a phone call. Data gathered by phone call were the recurrence and presence of any complications.

Statistical Analysis

Shapiro-Wilk test was used to check the normality of data. SPSS software (version 11.0, SSPS, Chicago, IL. USA) was used forsStatistical analyses. Two-sided p values were taken by Student's t-tests to reveal the difference in original volume of the cyst, length of the wound, and operative time in groups. P-value of less than 0.05 was set significant.

Results

Of the 354 randomized patients with age range from 18 to 78, 178 and 186 were assigned to the minimal and elliptical excision groups, respectively. The minimal excision group included 80 males and 98 were females. The elliptical excision group included 91 males and 95 females. The mean ages of the two groups did not show significant difference (P = 0.583). If the cyst was not ruptured or inflamed, the place of a cyst did not impact selection of the case. Table 1 shows our findings when both groups were compared. The mean original size of the cysts in the minimal excision group was 1.5 ± 0.70. The mean original size in the elliptical excision group was 1.7 ± 0.60. There was no statistically significant difference between the original sizes in both groups. The mean length of wounds in the minimal excision group was 2.4 ± 0.50 cm, and the wound length in the elliptical excision group was 2.6 ± 0.40 cm (P=0.001). The mean time of operation required for minimal excision was 6.0 ± 2.00 minutes, and it was significantly shorter than that for the elliptical excision group 11 ± 3.00 minutes (P=0.001, i.e. statistically significant).

The incidence of recurrence in both techniques is shown in Table 1. The overall recurrence rate in the elliptical group was 2.4 ± 0.20 %. There recurrence rate in the minimal excision group was 2.6 ± 0.30 that was not significantly different from that of the elliptical group (P = 0.653).

Discussion

There are some particular situations that need to be considered in epidermal cysts that are simple lesions with multiple aspects. These cysts could be associated with cutaneous lipomas or fibromas and osteomas [1]. There may be some confusion between dermoid cysts of the head and epidermoid cysts and excision of a dermoid cyst can end up a wound with intracranial communication [1]. Sometimes epidermal cysts could be con-

Table 1. Patient data and surgical outcomes of minimal and elliptical excision techniques in 364 patients candidate for epidermal inclusion cyst removal. Data are expressed as Mean ± SD.

Patients Data	Minimal Excision Technique	Elliptical Excision Technique	*P* Value
Location of Cysts	Head	Head	N/A
Number of Patients	178 ± 0.00	186 ± 0.00	P = 0.658
Follow up (Months)	24 ± 0.00	24 ± 0.00	P = 0.712
Age of patients	45.0 ± 27.00	46 ± 29.00	P = 0.583
Mean Size of Cysts (cm)	1.5 ± 0.70	1.7 ± 0.60	P = 0.567
Mean Length of Wound (cm)	2.4 ± 0.50*	2.6 ± 0.40	P = 0.001
Procedure time (min)	6.0 ± 2.00*	11 ± 3.00	P = 0.001
Recurrence (%)	2.6 ± 0.30	2.4 ± 0.20	P = 0.653

** Results were statistically significantly different from those obtained by of elliptical excision technique (P<0.05), Student's t-test.*

sidered complicated due to association with some malignancy like basal cell and squamous cell carcinoma. Where solid tumors or unusual findings are encountered, standard histologic assessments should be taken into consideration [1].

Because epidermal cysts may interfere with cosmetic concerns and or be very troublesome, the affected patients ask for surgical management of the case. It is a regular affection in daily practice and surgeons hardly ever search for novel surgical management. Nonetheless, cosmetic concerns of the patients are being increased nowadays. Therefore, minimally invasive surgical techniques for the removal of these cysts have been introduced in several literatures [8-14].

The rationale to adopt minimally invasive surgical techniques is simplicity, less invasiveness, less bleeding, reduced scarring, and decreased healing time. However, objective measurements associated with these advantages are missing.

In the present randomized study, it was demonstrated that the minimal excision technique for removal of epidermal cysts actually reduced the length of the wound, resulted in improved cosmetic result, shortened the time of procedure, and ended up decreased complication rate. The minimal excision technique is a satisfactory alternative method to excise non-infected epidermal cysts. Reduced surgical wound length could be mentioned a one of the great advantages of the minimal excision technique. In the present study the mean value for length of the wound in the minimal excision group was only 2.4 ± 0.50 cm with greatest result not exceeding 3 cm. In the present study, regardless the original size of the cyst, the resultant wound length from the minimal excision method did not exceed 3 cm. This is considered as graet benefit of the minimal excision technique when dealing with cysts on the areas of cosmetic concern. The surgeon in the present study did his best to minimize size of wounds treated by with conventional excision. However, the wounds created by conventional method were still larger than those of minimal excision, especially when excising a cysts larger than 1 cm, because the long axis should be kept about two to three times the length of the short axis. The minimal excision procedure may seem more difficult and time consuming when managing large cysts, larger than 2 cm in size. However, the procedure can still be performed smoothly with patience. In the present study, the size of a cyst did not make a difference in the case selection and no conversion to an conventional excision was required. When the surgical removal of 1 to 2 cm sized cysts in an area of cosmetic concern is the case, the privilege of minimal excision becomes significant. Other minimally invasive methods could also end up improved cosmetic results than conventional excision. Carbon dioxide laser is adopted to create several opening and expell out the cystic content, however, the basis of this technique has not been well investigated. Others have reported to make 2 to 3mm opening over the cyst [13]. The minimal excision method could result in a round to oval-shaped puncture for facilitated manipulation.

Another advantage of the minimal excision technique in our investigation was the reduced surgery time. The required mean time for operation in minimal excision method was significantly shorter than that for conventional method. For those surgical interventions that only simple equipment are available, the minimal excision method is a very rapid procedure. Sometimes expelling out the contents and wall of cyst was time consuming. However, the surgeon could save time because hemostasis and wound closure was needed. Because small openings in wounds are created in the minimal excision approach, no closure of wound is required. The place of a cyst did not impact selection of our cases if the cyst was not ruptured or inflamed. Our recurrencet rates Recurrence rates of the minimal excision technique method was 2.6 ± 0.30 %, which was considered to be low. Compared to the previous reports no significant difference was observed in the recurrence rates. A recurrence rate of 0.66% by minimal excision within an18-month follow-up has been reported [13]. It has been reported that the recurrence rate using

punch incision method was 3.6% by chart review and 8.3% by further survey [14]. It was reported that cysts excised from the back or and ear had the highest recurrence rates compared to those excised from other places. It is believed that all surgical methods for removal of cysts bear a significant risk of recurrence when the cyst wall is not completely removed.

It should be taken into consideration that we included only non-ruptured and non-inflamed cysts into the present investigation. The findings of the present investigation revealed that the minimal excision method was more pleased for the excision of non-inflamed cysts. However, the application of this method to ruptured cysts remains to be further investigated.

Conclusion

This is the first randomized prospective study to statistically compare the results between conventional and minimal excision techniques for surgical management of epidermal cysts. The findings of present study has showned that the minimal excision technique has resulted in superior cosmetic results while keeping less scarring. This technique of the minimal excision technique reduced the length of the postoperative scar wound regardless the original size of the cyst. The patients with an epidermal cyst in an areas of cosmetic concern are the best candidate for this method. When properly performed, the minimal excision metrhod was a satisfactory method to remove non-infected epidermal cysts.

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Response of fibromyalgia associated with Hepatitis C virus infection to combined oral antiviral therapy, Egypt

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INTRODUCTION: Fibromyalgia (FM) is a rheumatic syndrome characterized by a widespread musculoskeletal pain. Genotype 4 of HCV is the predominant genotype being isolated from up to 91% of HCV infected persons in Egypt. The prevalence of rheumatic manifestation was 16.4% of which 1.9% had fibromyalgia in HCV infection.

AIM: To assess the response of HCV associated FMto oral anti-viral treatment.

METHODS: This study is a cross-sectional study included 100 patients who were eligible to treatment with oral antiviral treatment in Suez insurance hospital. And outcome measures included presence of chronic widespread pain (CWP) according to the Manchester criteria.

RESULTS: Our patients answered the hepatitis quality of life questionnaire (HQLQ), extra hepatic manifestation and presence of chronic widespread pain (CWP) before and six months after treatment.

CONCLUSION: Comparison of demographic, clinical and laboratory data between HCV patient with fibromyalgia pre and post treatment: there's Significance of change before treatment 6 months after treatment especially in the serum calcium and vitamin Serum 1-25-(OH) D level.

Keywords: Fibromyalgia, hepatitis C virus, antiviral therapy.

Introduction

Fibromyalgia (FM) is a rheumatic syndrome that occurs predominantly to women aged 30-55 years rather than men. It is characterized by a widespread musculoskeletal pain. Greater than three months' duration, leading to physical and emotional problems. [1]

The exact cause of fibromyalgia is unknown; it may be by the malfunction of certain neurotransmitters in the brain and spinal cord. Regarding its chronicity it is considered as a life-long condition for most people interfering directly with their functional capacity. [2]

The diagnosis is based on the clinical presentation of the patient. The American College of Rheumatology (ACR) in 1990 published diagnostic research criteria for fibromyalgia included a presence of 11 out of 18 tender points, history of chronic and widespread pain in the left side of the body; pain in the right side of the body; pain above the waist; pain below the waist, axial skeletal pain present and the duration of pain more than 3 months. [3]

Chronic hepatitis C virus (CHC) is a major public health the prevalence of reservoir of HCV worldwide is nearly 2 million or 3% of the global population. [5] Egypt has an exceptionally high prevalence of HCV infection, estimated to be between 10% and 15% of its 90 million populations. [6] The annual infection rate is more than 70,000 new cases, of which at least 35,000 would have chronic hepatitis C. [7] Genotype 4 of HCV is the predominant genotype being isolated from 91% of HCV infected persons in Egypt. [8, 9]

One research has been conducted among Egyptians genotype 4 HCV infection revealed a 16.3% them have extra hepatic rheumatologic manifestations. Female gender appears to be more liable to develop

extra hepatic rheumatologic manifestations especially fatigue, fibromyalgia, autoimmune hemolytic anemia, and mixed cryoglobulinemia. HCV has been known to provoke a plethora of autoimmune syndromes as well as nonspecific rheumatologic manifestations which has been referred to as rheumatic manifestations of HCV genotype 4 such extra hepatic syndromes have been reported in as much as 40-74% of chronic HCV-infected patients. As a consequence of its lymphotropic nature, hepatitis C genotype 4 can trigger and sustain a clonal B-cell expansion which causes a wide spectrum of autoimmune/lymphoproliferative disorders, These extra hepatic manifestations become clinically manifest in 40%-70% of the patients and they can be frequently classified among the rheumatic ones. [10, 11]

Furthermore, HCV can promote the production of several auto antibodies complicating the differential diagnosis between primitive and HCV related rheumatic disorders. [12, 13] Fibromyalgia(FM) is reported by 1.9% to 57% of patients suffering from HCV chronic infection. [14] Although in a Spanish study anti-HCV antibodies were found in 15.2% of the enrolled FM subjects, other studies did not confirm the increased prevalence of HCV infection in FM. [15]

Chronic Hepatitis C infection and Fibromyalgia share many clinical features including fatigue and musculoskeletal pain. One study found that people dually diagnosed with fibromyalgia and hepatitis C exhibit symptoms such as inflammation around a joint, bursa and/or tendon, and vasculitis that are not seen in non-hepatitis C people with fibromyalgia [16].

Another Egyptian research included 306 patients having chronic HCV infection were Interviewed. The prevalence of rheumatic manifestation was 16.39% of which 1.9% had fibromyalgia. [13]

Aim of the work

To assess the response of HCV associated fibromyalgia to oral anti-viral treatment,

Material & Methods

This study was conducted in Suez Insurance Hospital. 100 patients were eligible to treatment with oral antiviral treatment, each patient was assessed with same rheumatologist before treatment.

All patients underwent assessment including history, clinical examination, and functional assessments for pain and disability+, Met the criteria established by the American College of Rheumatology (ACR). Those criteria are:

1. Widespread pain (right and left side body pain, above and below the waist) that lasts 2 for more than 3 months.

2. Eleven or more tender points present at 18 specific sites on the body. [17]

Participants answered the Hepatitis Quality of Life Questionnaire (HQLQ) before and six months after finishing treatment.

Each patient received same regimen of treatment in the form of sofosbuvir 400 mg, daclatasivir 60mg and ribavirin 600mg

Outcome measures included presence of chronic widespread pain (CWP) according to the Manchester criteria (pain in the axial skeleton and at least two contralateral body quadrants for at least 3 months, the number of affected joints, pain intensity, and interference with daily life as scored on a visual analogue scale (VAS). [18]

Patients with other rheumatic diseases, hepatitis B virus and HIV were excluded.

Results

The results are shown on Tables 1-5.

Discussion

Our Patients showed significant improvement in 11 of the 12 domains of HQLQ after treatment, with the whole improved in the total score antiviral therapy had a positive effect on HRQOL which has been defined by Spiegel et al., as there's clinically important difference in HRQOL after treatment. [19] Therefore, the antiviral therapy has had a positive effect on HRQOL is dependent on the weighting given to different domains. In keeping with our study, HRQOL improvement Was seen in the domains relating to physical health (H. H. Thein et al., 2007) had Given the significant improvement in domains relating to general health, disease limitations, social functioning, and hepatitis-related distress, the deterioration in domains relating to mental well-being and positive well-being distress suggests a complex range of effects with antiviral treatment, which were matched with our work. [20]

J. Golden et al., found that there's high incidence of anxiety and depressive symptoms, which are commonly reported among HCV-infected patients. These symptoms may be related to a patient's distress at being diagnosed with a chronic and serious illness, the exacerbation of these symptoms, on the other hand, may be caused by antiviral treatment itself, as it is known to cause depression. Our results support the hypothesis that initial impairments in physical domains are health distress and mental health. [18]

Our patients interestingly experience myalgia and arthralgia following treatment, the average VAS pain intensity and impact

Table 1. Demographic data: Our study reflected a relatively young population with a mean age of 46. The higher prevalence were among male patients and the higher associated condition was about the chronic wide spread pain.

Demographic data	Gender		Age	Associated condition				
	Male	Female		Osteoarthritis	Rheumatoid arthritis	Undifferentiated arthritis	Sicca syndrome	Chronic wide spread pain
Mean / Percent	59	41	46	89	10	1	53	88

Table 2. HQLQ scores before and after treatment: HQLQ domain mean scores, significance of change before and after the treatment.

	Before treatment	after 6 months	p value
Physical functioning	26.3	87.2	*0.004*
Role physical	43.2	83.1	*0.0067*
Body pain	76.6	36.3	*0.035*
General health	48.9	79.1	*0.0023*
Vitality	35.1	66.9	*0.0123*
Social functioning	43.4	78.6	*0.0087*
Role emotional	63.8	79.3	0.370
Mental health	73.3	69.3	0.4476
Health distress	67.8	42.9	*0.0079*
Positive well-being	78.5	61.7	*0.0014*
Hepatitis-specific functional limitations	78.6	49.3	*0.0019*
Hepatitis-specific distress	22.3	36.3	*0.0017*

Table 3. Extra hepatic manifestation before and after treatment: there's significance of change before and after treatment especially in the CWP (chronic widespread pain).

	Before treatment	after 6 months	p value
CWP (chronic widespread pain)	36.3	15.3	*0.015*
Average pain intensity in past month (VAS) (0–10)	7.5	3.03	*0.0125*
Interference with daily activities in past month (0–10)	3.91	1.67	*0.048*
Number of painful joints in past month	3.49	1.24	*0.006*
Pain for more than 3 months	75.4	25.4	*0.031*
"I ache allover"	26.7	14.6	*0.039*

levels, bodily pain aspects of the HQLQ, and the number of painful joints were all low and changed little with treatment. This reflects that extra hepatic pain manifestations in HCV patients

Table 4. Variables associated with before treatment and after treatment: there's Significance of change before and after treatment especially in the number of painful joint.

CWP	Before treatment	after 6 months	p value
VAS pain rating (mean)	36.3	15.3	*0.015*
VAS interference rating (mean)	7.5	3.03	*0.0136*
Interference with daily activities in past month (0–10)	3.91	1.67	*0.048*
Number of painful joints in past month	5.49	1.69	*0.001*
HQLQ domain			
Physical functioning	77.8	80.3	*0.021*
Role physical	55.6	67.9	*0.031*
Body pain	40.2	88.9	*0.051*
General health	45.9	67.3	*0.041*
Vitality	50.2	45	*0.032*
Social functioning	56.9	67	*0.031*
Role emotional	54.3	66.8	*0.001*
Mental health	66.2	77.8	*0.221*
Health distress	45.3	30.9	*0.023*
Positive well-being	77.4	87.9	*0.035*
Hepatitis-specific functional limitations	52.8	87	*0.051*
Hepatitis-specific distress	28.9	35	*0.043*

are unaltered by treatment in the majority of cases which were matched with the work of D. Saadoun et al., 2008. [21]

In our study we compare patients with and without CWP before treatment revealed baseline HQLQ scores to be significantly worse in 11 domains in those with CWP. CWP remission after treatment was also significantly associated with an improved body pain and physical function score.

Conclusion

Chronic hepatitis C virus infection can induce several rheumatic manifestations that should be differentiated from the primitive rheumatic ones. Treatments for these two kinds of disorders are usually different and the lack of detection of HCV infection could represent a real risk for patients. As a consequence, HCV testing should be routinely performed in patients showing rheumatic signs and/or symptoms. In some patients,

Table 5. Comparison of Demographic, Clinical and Laboratory Data between HCV patient with fibromyalgia pre and post treatment: there's Significance of change before treatment 6 months after treatment especially in the serum calcium and vitamin Serum 1-25-(OH)D level.

	Before treatment	after 6 months	p value
Age (years), mean (SD)	37.96 ± 9.8	32.63 ± 10.1	*0.002*
Time with symptoms (month), mean (SD)	58.24 ± 38.89		
Time since diagnosis (month), mean (SD)	13.23 ± 6.23		
Married, n (%)	53 (96%)	63 (92%)	
Serum calcium (mg/dl)	9.32 ± 0.35	9.15 ± 0.43	*0.005*
Serum phosphorus (mg/dl)	3.60 ± 0.47	3.66 ± 0.54	
Serum alkaline phosphatase (U/L)	159.9 ± 48.7	142.3 ± 33.5	*0.017*
ESR	14 ± 9	15 ± 10	
Serum 25-OHD (ng/ml) mean (SD)	17.24 ± 13.50	9.91 ± 6.47	*0.001*
Serum 25-OHD ≤ 20 ng/ml, n (%)	48 (69.6%)	63 (92.6 %)	*0.001*
Serum 25-OHD = 20–30 ng/ml, n (%)	13 (18.8 %)	4 (5.9 %)	*0.001*
Serum 1-25-OHD ≥ 30 ng/ml, n (%)	8 (11.6)	1 (1.5)	*0.001*

it remains unrealistic, also for experienced rheumatologist, to discriminate if the presence of HCV is casual or plays an active role in causing autoimmune disorders.

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Features of the cardiovascular system in term infants with intrauterine growth restriction

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Newborns with intrauterine growth restriction (IUGR) perinatal hypoxia, the lesion of the cardiovascular system is recorded in a physical and instrumental study in 40-70% of children. In addition to hypoxia, morphofunctional immaturity is an important factor in the development of severe pathological conditions affecting both the organism of the child as a whole and the cardiovascular system in particular. Improvement of modern methods of diagnosing the defeat of the cardiovascular system, treatment and supervision of this category of children was the purpose of our study. We examined 129 full-term newborns from the moment of birth until the end of the first month of life, 89 of them with different variants of IUGR made up a surveillance group and 40 children with normal physical development indicators-a comparison group. As a result of the study, it was revealed that chronic and perinatal hypoxia in newborn children with IUGR causes a violation of adaptation processes, adversely affects central hemodynamics and intracardiac hemodynamics. Thus, the indicators of intracardiac hemodynamics during the early neonatal period indicate a possible reduction in the reserve capabilities of the cardiovascular system and the prolonged nature of hemodynamic adaptation in newborns with IUGR.

Keywords: IUGR, adaptation, cardiovascular system.

Introduction

In the structure of adult mortality, the pathology of the cardiovascular system, of which origin starts from childhood, is the first place. Therefore, early diagnosis of violations from the cardiovascular system remains one of the current problems in medicine. In newborns with perinatal hypoxia, the lesion of the cardiovascular system is recorded in a physical and instrumental study in 40-70% of children [1, 2].

In addition to hypoxia, morphofunctional immaturity is an important factor in the development of severe pathological conditions affecting both the organism of the child as a whole and the cardiovascular system in particular [3, 4]. The organization of the newborn has huge reserve capabilities, but with a delay in intrauterine development, reserve capacity is minimal, which often leads to functional and structural disorders from the heart and nervous system [5]. Improvement of modern methods of diagnosing the defeat of the cardiovascular system, treatment and supervision of this category of children was the purpose of our study.

Material & Methods

We examined 129 full-term newborns from the moment of birth until the end of the first month of life. 89 of them with different variants of IUGR made up a surveillance group and 40 children with normal physical development indicators as a comparison group. Asymmetrical version of the IUGR had 65 children (73.56%), and symmetric - 24 (26.44%). The comparison group consisted of 40 newborns with normal anthropometric indicators, born at a gestation period of 38-40 weeks, with a body weight of at least 3100 grams, a length of at least 50 cm not higher than the 90th cent for its gestation period. There were no

significant gender differences between the groups (p> 0.05).

When collecting anamnestic data, special attention was paid to the obstetric anamnesis. The age of the mother, the number of previous pregnancies, the presence of concomitant pathology, occupational hazards, the features of the current pregnancy, the data of cardiotocography and ultrasound examination, the dynamics of blood pressure, the duration of labor and the method of delivery were taken into account.

In the clinical evaluation of newborns, anthropometric data, Apgar scores, feeding patterns, the timing of the first application to the breast and the rejection of the umbilical cord, the maximum weight loss were evaluated. The somatic status of the newborn was assessed daily during the stay in the maternity hospital.

The main quantitative methods for assessing central hemodynamics in newborns were monitoring of blood pressure, ECG, and echocardiography (ECHO-CG). Transthoracic ECHO-CG study was conducted at the 2nd week of life and at the age of one month in 81.2% of the newborns in the observation group and in 74.8% of the children in the comparison group according to the standard method. Neurosonography was conducted on the 7 - 10 days of life and at the age of one month.

Results

In order to find out the main reasons for the formation of the fetal heart failure, we studied the anamnesis and a summary of pathological data in the mothers of the compared groups. The mean age of women in the observation group was 24.56 ± 0.52 years, in the comparison group, 25.80 ± 0.57 years (p> 0.05). Of the concomitant pathology in women who gave birth to children with IUGR, 67.82% of the genitourinary and 45.98% of the cardiovascular system were more common, each second had anemia and acute respiratory viral infections (p <0.05). Pregnancy was significantly more often complicated with chronic fetoplacental insufficiency (90.81% vs 37.5%), threat of abortion (68.97% vs. 37.5%) and gestosis (39.08% vs. 22.5%). Signs of intrauterine fetal hypoxia from ultrasound and cardiotocography were recorded in 58.6% of the mothers of the main group and 24.4% in the mothers of the comparison group (p <0.05). In 79.32% of women who gave birth to children with IUGR, the carriage of intrauterine infection was found: cytomegalovirus (38%), herpetic (32%), chlamydial infection (27%), mycoplasmosis (22%), toxoplasmosis (11%), every third woman suffered from candidal vulvovaginitis (30%). In the comparison group, the carriers of the above infections were registered in 32.50% of women. Weighed obstetrical anamnesis is also 2 times more often observed in the mothers of the observation group. The average body weight at birth in children with IUGR was 2551, 33 ± 307 g, in the comparison group 3547.38 ± 266 g; the length of the body was 49.54 ± 0.22 cm and 54.20 ± 0.27 cm respectively. The average Apgar score at the 1st and 5th minutes of life was significantly lower in children with prenatal hypotrophy, and one in four children was born in a state of asphyxia of one or another degree of severity and needed to carry out active resuscitation measures. There was no asphyxia in the comparison group.

The period of adaptation in newborns with IUGR was characterized by a more frequent occurrence of jaundice (74.26%), toxic erythema (38.10%), significantly greater weight loss (6.85 ± 0.25%) and slow recovery (p <0, 05). There were no significant differences in the frequency of occurrence of a sexual crisis and a uric acid infarct in children in the compared groups. For newborns of the observation group, the earlier disappearance of the umbilical cord was characteristic - by 3.90 ± 0.05 days, in the comparison group - by 5.23 ± 0.06 days. (p <0.01).

When analyzing the hemograms of newborns with IUGR, a decrease in the total number of leukocytes, an increase in the number of platelets, signs of polycythemia and hypoglycemia (p <0.05) was found. Reduction of leukocytes is due to the oppression of the white germ of hematopoiesis against the background of chronic antenatal stress, and possibly the presence of a persistent viral infection. The increase in the number of platelets is secondary and may be associated with hypercapnia, which is capable of inducing the production of platelets or with infectious factors. By the end of 1 month of life, one in four children with IUGR (24.12%) was diagnosed with hypochromic anemia, and no other blood parameters were changed.

In the structure of morbidity in children of the observation group, the pathology of the central nervous system was the first (82.67%), the second place was occupied by the pathology of the cardiovascular system (48.49%) and the third one by intrauterine infection (31.14%). In the comparison group, the morbidity pattern had a similar pattern, but the incidence of this pathology was significantly lower: central nervous system pathology (31.05%), cardiovascular system pathology (20.07%), and intrauterine infection (12.5%).

Influence of chronic and perinatal hypoxia, violation of adaptation processes has a negative effect on central hemodynamics, and considering that the clinical signs of cardiovascular system lesion in children are polymorphic and nonspecific, instrumental research methods acquire special significance in diagnosis [7,8].

In children with IUGR heart rate and average blood pressure on the first day had a clear tendency to increase. By the end of the first month of life, the mean arterial pressure and heart rate in the compared groups were practically the same.

According to the standard ECG in children with perinatal hypoxia, rhythm and conduction disorders were three times more common. The sinus tachycardia predominated among the rhythm disturbances, and the incomplete blockade of the right leg of the Hiss bundle (21.84%), caused by the increase in pressure in the low circulation system, and non-specific violations of intraventricular conduction (18.39%), were the most typical of the disorders of the rhythm. Low voltage was registered in 5.75% of newborns. Signs of hypoxic damage to the heart muscle were most often characterized by a T wave inversion in the thoracic leads (18.39%), ST segment depression (24.14%), a decrease in the T wave amplitude (11.49%), moderate cardiac overload (25, 29%). At 2.30% of the newborns in the observation group, there was a significant increase in the repolarization time of the ventricles, which was manifested by transient elongation of QT (p <0.05).

At the age of one month, 19.54% of the children of the ECG observation group had signs of an overload of the right heart

in the form of a violation of intraventricular conduction in the right bundle branch system - from complete blockade to non-specific conduction abnormalities. Among these patients, there were mainly children who, in addition to chronic intrauterine hypoxia, suffered acute intrapartum asphyxia (perinatal hypoxia). Sinus tachycardia persisted in 21.84%, and a low voltage was registered in 2.30% of children with an IUGR in the anamnesis. In the comparison group at the age of one month, sinus tachycardia was noted in 7.50% of children, violations of intraventricular conduction were registered in 2 children (5.0%), low voltage was not detected in any child. Differences between the compared groups were statistically significant ($p < 0.05$).

With the help of echocardiographic research in newborns with IUGR, a significant decrease in end-diastolic and end systolic volumes of the left ventricle was revealed, which indicated its decreased blood filling. The main hemodynamic parameters in the children of the observation group lagged significantly behind the growth rates of similar indicators of the comparison group.

One of the most important parameters of a newborn's hemodynamic adaptation to the conditions of extrauterine life is the presence of functioning fetal communications. Circulatory fetal communications play a regulatory role, reducing the hemodynamic load on the right ventricular myocardium. According to the literature, in most infants, the functional closure of fetal communications occurs in the first three days [5, 6]. According to our study, by the end of the early neonatal period, a patent foramen ovale (PFO) was visualized during echocardiography in 48.28% of newborns with IUGR. The patent ductus arteriosus (PDA) was detected in 25.29% and 8.05% of the newborns of the observation group were diagnosed with congenital heart disease (CHD). Among the heart defects, the defect of the interventricular septum was diagnosed in 3 (3.45%) children, the aneurysm of the atrial septum in 2 (2.30%), partial atrioventricular communication and aortic coarctation for one child, respectively (1.15%). The presence of PFO in the comparison group was detected in 9 newborns (22.50%), PDA was visualized in 5 children (12.50%), congenital heart diseases were not found. Differences between the groups were statistically significant ($p < 0.05$). The PFO was preserved in 32.20% of newborns with IUGR, PDA at 6.90% and 8.05% confirmed by congenital heart defect.

Discussion

It should be noted that many changes in hemodynamic and metabolic status in the early neonatal period are compensatory-adaptive [5, 6]. Therefore, the majority of violations that occurred in this period are transitory and reversible. The body of a newborn child has enormous reserve capabilities, but with a burdened perinatal period, a delay in intrauterine development, reserve opportunities are minimal, so there is a need as early as possible, even during the preclinical period of the development of a pathological condition, to suspect it and use the optimal therapeutic tactics to avoid heavy consequences for the newborn child and his family, both in the medical and social sense.

Conclusion

The indicators of intracardiac hemodynamics during the early neonatal period indicate a possible reduction in the reserve capabilities of the cardiovascular system and the prolonged nature of hemodynamic adaptation in newborns with IUGR.

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WMA International Code of Medical Ethics

Adopted by the 3rd General Assembly of the World Medical Association, London, England, October 1949 and amended by the 22nd World Medical Assembly, Sydney, Australia, August 1968 and the 35th World Medical Assembly, Venice, Italy, October 1983 and the 57th WMA General Assembly, Pilanesberg, South Africa, October 2006.

DUTIES OF PHYSICIANS IN GENERAL

A PHYSICIAN SHALL always exercise his/her independent professional judgment and maintain the highest standards of professional conduct.

A PHYSICIAN SHALL respect a competent patient's right to accept or refuse treatment.

A PHYSICIAN SHALL not allow his/her judgment to be influenced by personal profit or unfair discrimination.

A PHYSICIAN SHALL be dedicated to providing competent medical service in full professional and moral independence, with compassion and respect for human dignity.

A PHYSICIAN SHALL deal honestly with patients and colleagues, and report to the appropriate authorities those physicians who practice unethically or incompetently or who engage in fraud or deception.

A PHYSICIAN SHALL not receive any financial benefits or other incentives solely for referring patients or prescribing specific products.

A PHYSICIAN SHALL respect the rights and preferences of patients, colleagues, and other health professionals.

A PHYSICIAN SHALL recognize his/her important role in educating the public but should use due caution in divulging discoveries or new techniques or treatment through non-professional channels.

A PHYSICIAN SHALL certify only that which he/she has personally verified.

A PHYSICIAN SHALL strive to use health care resources in the best way to benefit patients and their community.

A PHYSICIAN SHALL seek appropriate care and attention if he/she suffers from mental or physical illness.

A PHYSICIAN SHALL respect the local and national codes of ethics.

DUTIES OF PHYSICIANS TO PATIENTS

A PHYSICIAN SHALL always bear in mind the obligation to respect human life.

A PHYSICIAN SHALL act in the patient's best interest when providing medical care.

A PHYSICIAN SHALL owe his/her patients complete loyalty and all the scientific resources available to him/her. Whenever an examination or treatment is beyond the physician's capacity, he/she should consult with or refer to another physician who has the necessary ability.

A PHYSICIAN SHALL respect a patient's right to confidentiality. It is ethical to disclose confidential information when the patient consents to it or when there is a real and imminent threat of harm to the patient or to others and this threat can be only removed by a breach of confidentiality.

A PHYSICIAN SHALL give emergency care as a humanitarian duty unless he/she is assured that others are willing and able to give such care.

A PHYSICIAN SHALL in situations when he/she is acting for a third party, ensure that the patient has full knowledge of that situation.

A PHYSICIAN SHALL not enter into a sexual relationship with his/her current patient or into any other abusive or exploitative relationship.

DUTIES OF PHYSICIANS TO COLLEAGUES

A PHYSICIAN SHALL behave towards colleagues as he/she would have them behave towards him/her.

A PHYSICIAN SHALL NOT undermine the patient-physician relationship of colleagues in order to attract patients.

A PHYSICIAN SHALL when medically necessary, communicate with colleagues who are involved in the care of the same patient. This communication should respect patient confidentiality and be confined to necessary information.

Azerbaijan Medical Association

ABOUT

The Azerbaijan Medical Association (AzMA) is the country's leading voluntary, independent, non-governmental, professional membership medical organization for physicians, residents and medical students who represent all medical specialties in Azerbaijan.

Association was founded by Dr. Nariman Safarli and his colleagues in 1999. At the founding meeting, the physicians adopted the Statutes and Code of Ethics of the Association. The AzMA was officially registered by Ministry of Justice of Azerbaijan Republic in December 22, 1999.

Since its inception, the AzMA continues serving for a singular purpose: to advance healthcare in Azerbaijan.

- Founded in 1999, the AzMA provides a way for members of the medical profession to unite and act on matters affecting public health and the practice of medicine.
- We are the voice of physicians who support the need for organized medicine and want to be active within their profession.
- We are the representative for Azerbaijan doctors on the world–wide level and the voice of Azeri physicians throughout the world.

MISSION

The mission of the Azerbaijan Medical Association -is to unite all members of the medical profession, to serve as the premier advocate for its members and their patients, to promote the science of medicine and to advance healthcare in Azerbaijan.

GOALS

- Protect the integrity, independence, professional interests and rights of the members;
- Promote high standards in medical education and ethics;
- Promote laws and regulation that protect and enhance the physician-patient relationship;
- Improve access and delivery of quality medical care;
- Promote and advance ethical behavior by the medical profession;
- Support members in their scientific and public activities;
- Promote and coordinate the activity of member-specialty societies and sections;
- Represent members' professional interests at national and international level;
- Create relationship with other international medical associations;
- Increase health awareness of the population.

The association's vision for the future, and all its goals and objectives are intended to support the principles and ideals of the AzMA's mission.

INTERNATIONAL RELATIONSHIPS

Since its establishment, AzMA built close relationships with many international medical organizations and national medical associations of more than 80 countries. The following are the AzMA's international affiliations:

- Full membership in the World Medical Associations (WMA) (since 2002)
- Full membership in the European Forum of Medical Associations (EFMA) (since 2000)
- Full membership in the Federation of Islamic Medical Associations (FIMA) (since 2002)
- Associate membership in the European Union of Medical Specialists (UEMS) (since 2002)

Especially the year 2002 remained with memorable and historical events for AzMA such as membership to the World Medical Association (WMA). Today we are extremely pleased to represent our Association and to be a part of the WMA family.

MEMBERSHIP

A person with medical background, who accepts and follows the AzMA Statutes and AzMA Code of Ethics, may become a member of the Association. The Code of Ethics of the Association shall be the members' guide to professional conduct.

Membership in the AzMA is open to:

- Physicians residing and practicing in Azerbaijan and in abroad.
- Medical students enrolled at medical universities or schools
- Retired physicians

Members can access a special members only area of the AzMA website designed to provide the most up-to-date, and timely information about organized medicine in our country.

To the non-member, we hope you'll discover, through our website how valuable Azerbaijan Medical Association is to medicine in Azerbaijan and will join us.

MEDICINE'S VOICE IN AZERBAIJAN

As the largest physician membership organization in Azerbaijan the AzMA devotes itself to representing the interests of physicians, protecting the quality of patient care and as an indispensable association of busy professionals, speaks out with a clear and unified voice to inform the general public and be heard in the highest councils of government.

The AzMA strives to serve as the Medicine's Voice in Azerbaijan.

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For more information, please visit our website: *www.azmed.az*

We work together for the sake of healthy future of Azerbaijan!

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