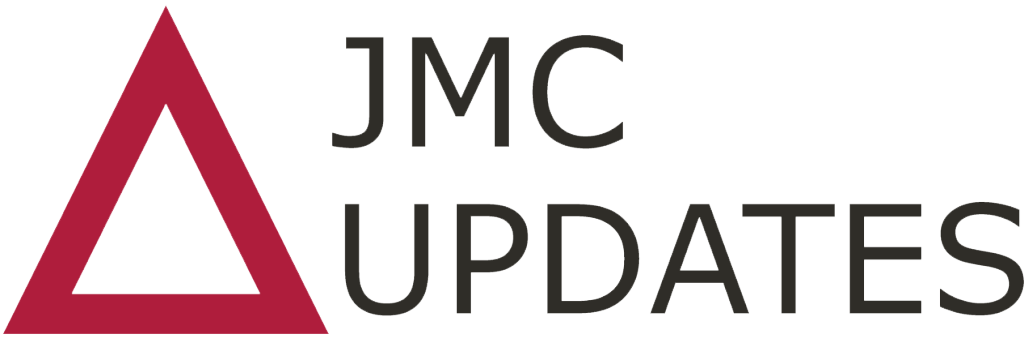

Journal of Medical Cases Updates

Year 2021 | Volume 1 | Issue 1

e-ISSN: 2822-5635

An open access peer-reviewed journal publishing by Cetus Publishing

JMC UPDATES

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Lobular capillary hemangioma of the nasal septum

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ABSTRACT

Numerous vascular tumors may develop in the nasal cavity. These tumors usually present with clinical symptoms such as nasal discharge, epistaxis, and obstruction. Among these, lobular capillary hemangioma, although its etiology is unknown, is generally encountered on the skin, lips, buccal mucosa, tongue, and gums. Capillary hemangioma can be pedunculated or large and is rarely observed in the nasal septum. We present a case with lobular capillary hemangioma located in the nasal septum of a 36-year-old female patient who was admitted with the complaint of epistaxis

Keywords: nasal septum; pyogenic granuloma; lobular capillary hemangioma

INTRODUCTION

Numerous vascular tumors may develop in the nasal cavity. These tumors usually present with clinical symptoms such as nasal discharge, epistaxis, and obstruction. Apart from these symptoms, patients may have to visit outpatient clinics with less common symptoms such as headache, local swelling, and anosmia. Hemangiomas, which are relatively more prevalent in the head and neck region, are fibrovascular tumors.[1] Among these, lobular capillary hemangioma, although its etiology is unknown, is generally encountered on the skin, lips, buccal mucosa, tongue, and gums. Capillary hemangioma can be pedunculated or large and is rarely observed in the nasal septum.[2] Trauma and hormonal factors are most commonly noted in its etiology.[2] Lobular capillary hemangioma is also known as pyogenic granuloma.[3] We present a case with lobular capillary hemangioma located in the nasal septum of a 36-year-old female patient who was admitted with the complaint of epistaxis.

CASE REPORT

A 36-year-old female was admitted to our clinic with the complaints of intermittent epistaxis and nasal obstruction continuing for approximately a month. The patient had no history of trauma. Anterior rhinoscopy and endoscopic examination revealed a pedunculated mass of approximately 1 cm in diameter originating from the septum in the left Little's area (Figure 1).

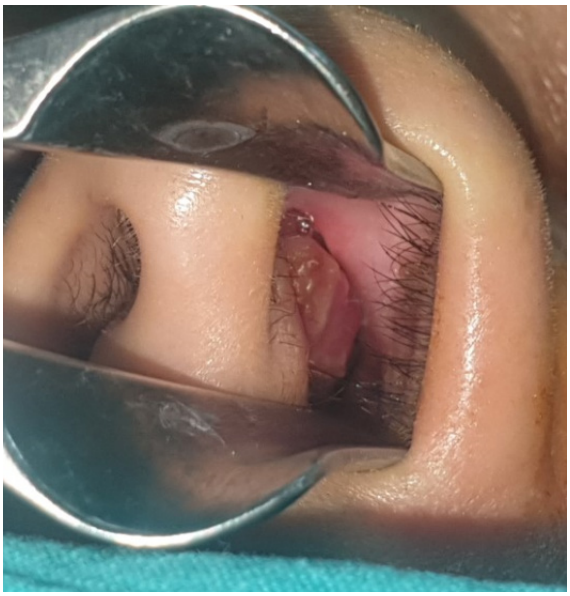

Figure 1: A pedunculated mass of approximately 1 cm in diameter originating from the left Little's area of the septum

Received: 11.04.2021 **Accepted:** 18.05.2021

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Cite This Article: Say M.A, Yiğit V.B, Karagülle Ç. Lobular capillary hemangioma of the nasal septum. Journal of Medical Cases Updates. 2021; 1(1): 1-3.

Excision was recommended to the patient. This mass was totally excised, including the mucoperichondrium of the originating area, under local anesthesia. Macroscopically, it was a blackish gray, polypoid mass with soft consistency, sized 1 × 0.7 cm (Figure 2).

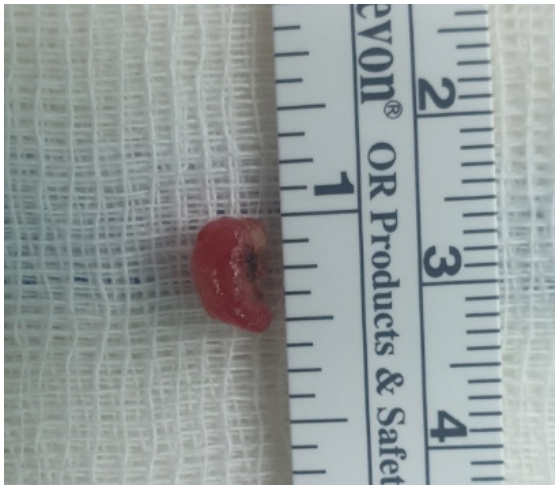

Figure 2: Macroscopic (1 × 0.7 cm), blackish gray, polypoid mass on the outside with soft consistency.

Histopathologically, it showed lobular proliferation of thin-walled capillary blood vessels covered with endothelial cells in the subepithelium. Mass pathology presented as lobular capillary hemangioma (Figure 3). No recurrence was observed in the postoperative follow-ups of the patient.

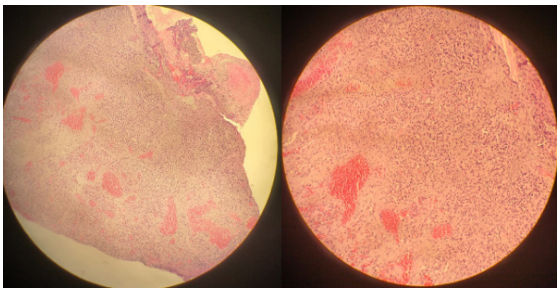

Figure 3: Lobular proliferation of capillary-sized blood vessels.

DISCUSSION

Lobular capillary hemangioma is the polypoid form of hemangioma that can occur at any age and appear on the skin and mucous membranes. It was first defined by Pancet and Dor in 1987.[4] It is rarely observed in the nasal cavity. In the nasal cavity, it is mostly observed in the Little's area and anterior of the inferior turbinate.[5,6] Lobular capillary hemangioma of the nasal cavity usually presents with recurrent unilateral epistaxis, nasal congestion, nasal discharge, and rarely, facial pain, changes in smell, and headache.[7].

Lobular capillary hemangioma is often observed in the third decade and among female patients. Although it is more common among adult females, it is more common among male children.[2] The development mechanism of the tumor is not fully known. In pathogenesis, several factors such as trauma, cytogenetic factors, hormonal condition, viral oncogenes, production of angiogenic growth factors, and arteriovenous malformations are suspected.[7,8]

Complete excision of the mass with endoscopic surgical techniques is recommended for treatment.[3,6] Inadequate excision has been reported as the most common cause of postoperative recurrence.[9] The recurrence rate of the nasal capillary lobule hemangioma varies between 0%–22.6% in the literature.[3,10] There is no relationship observed between the risk of recurrence and the performed treatment options. Recurrences can be observed after surgical excision, CO2 laser excision, cauterization, ligation, and curettage.[11]

One of the rare complications of pyogenic granuloma is the formation of multiple satellite lesions after the excision of the lesion.[12] Angiogenic factors are thought to play a role in the formation of new lesions after the excision of the primary tumor.[13] In their cytogenetic study, Truss et al. reported a deletion in the long arm of the 21st chromosome. Genes regulating angiogenesis formation and endothelial proliferation were found in the chromosome region where this deletion occurs.[14]

In conclusion, lobular capillary hemangioma, which is one of the many vascular tumors in the nasal cavity, should be kept in mind in the differential diagnosis of patients presenting with epistaxis and nasal obstruction.

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Journal of Medical Cases Updates 2021;1(1):4-9

Bilateral iliac osteotomy in symphisis pubis diastasis together with extrophia vesicalis: A case report and literature review

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ABSTRACT

Classical exstrophia vesicalis is a rare congenital defect requiring multidisciplinary surgical reconstruction. It is observed with symphysis pubis diastasis in which orthopedic intervention is required. Reducing pubic distance by applying pelvic osteotomy reduces tension in the organs in the lower abdomen. In the presented study, a 13-month-old male patient, who underwent iliac osteotomy with the diagnosis of symphysis pubis diastasis with exstrophia vesicalis, and who was operated together by pediatric surgery and orthopedic departments, and who underwent a second operation due to complications on the 15th day of the post-operation has been discussed as case report along with the literature review.

Keywords: exstrophia vesicalis; iliac osteotomy; symphysis pubis diastasis.

INTRODUCTION

Classical exstrophia vesicalis is a rare congenital defect requiring multidisciplinary surgical reconstruction. It is seen in one of every 30 thousand childbirths and is 4 times more in baby boys than baby girls.[1] It is formed as a result of the developmental defect of the lower anterior abdominal wall and pubic bones, there is no anterior vesical wall and the posterior bladder opens directly to the middle-lower abdomen. The bladder wall merges with the skin from both sides and urine goes directly into the abdominal wall. Urethral anterior wall defect and epispadias also accompany this anomaly.

In this anomaly, there is also symphysis pubis diastasis.[2] This space, which is around 0.6 cm in a healthy person of all ages, reaches an average of 8 cm at about age 10 in children with exstrophia vesicalis, while it is about 4 cm at birth. In these patients, the width of the sacrum and the length of the posterior (iliac) segment are normal, while the length of the anterior (ischiopubic) segment is 30% shorter than normal. In addition, these two segments have undergone external rotation.[3]

The formation process of the defect begins with the hypertrophy of the cloacal membrane during the development stages of the urogenital sinus during the sixth and tenth weeks of intrauterine, preventing the migration of the mesoderm between the ectoderm and the endoderm. This malformation not only inhibits the development of the lower abdominal muscle structure and pelvic bones, but also makes the cloacal membrane unstable and prone to early rupture. The time and location of the prolapse determine the condition of the case in the extrophy-epispadias spectrum.[1]

The treatment is complicated and mostly in several stages. In babies born with Congenital Exstrophia Vesicalis (CEV), a series of multidisciplinary reconstructive surgery is required, including closure of the

Received: 11.04.2021 **Accepted:** 18.05.2021

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Cite This Article: Arı B, Kuyubaşı S.N, Inal S, Uygun I, Öner S.K. Bilateral iliac osteotomy in symphisis pubis diastasis together with extrophia vesicalis: a case report and literature review. 2021; 1(1):4-9.

anterior abdominal wall, closure of urethra and bladder with the aim of controlling urine so that renal functions are preserved, reconstruction of genital organs for cosmetic and functional purposes and finally reduction of pubic gap. Closing the bladder is essential in the early stages to maintain the patient's kidney function and to ensure spontaneous urination. It is also recommended that pelvic osteotomy be performed in the first 72 hours, when the pelvic bones are flexible. Other surgeries can be left for the next sessions.[3,4,5]

In this study, the application of bilateral iliac osteotomy for the symphysis pubis diastasis in the second operation of a 13-month-old male patient, who was born with the diagnosis of exstrofia vesicalis and whose first operation was performed on the 5th postnatal day, and the short-term results of this application have been documented as a case report by reviewing the literature information.

CASE REPORT

A 13-month-old male patient was brought to the pediatric surgery department of our hospital for the purpose of operation due to CEV. The patient was consulted to our orthopedic clinic for the closure of anterior pelvic defect. The information about the patient was that the patient was born prematurely at the 32nd gestational week, was operated due to chloacalecstrophy + high-type anal atresia + bilateral inguinal hernia on the 5th day, and that there were no other additional diseases. In the pelvis and lower extremity physical examination, it was found that the symphysis pubis anterior had a soft tissue defect of approximately 50 x 50 mm. It was observed that both lower extremities were in external rotation and joint range of motion was normal in all joints. No length difference was observed in the extremities. Neuromotor and vascular examination was natural in both lower extremities. In x-ray and CT examinations, it was found that there was 51.5 mm pubic diastasis and no additional bone problem (figure 1a, 1b).

Surgical treatment was planned in the same session by us in order to close the anterior pelvic diastasis in addition to the surgical operation to be performed in exstrophia vesicalis by the pediatric surgery department.

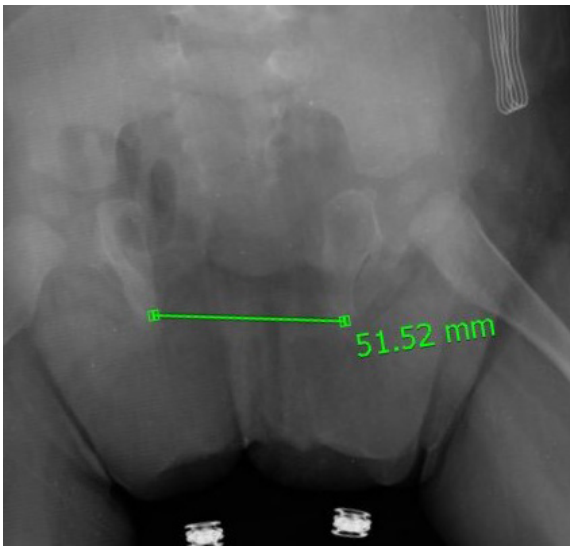

Figure 1a: Preoperative anteroposterior X-ray graphy.

Figure 1b: Preoperative CT imaging.

Right general jugular vein and right femoral artery catheterization were performed after general anesthesia. After general sterilization applications, the operation was started by the pediatric surgery department. Bilateral undescended testis, bilateral inguinal hernia repair, exstrophai vesicalis epispadias complex repair, bladder augmentation (ileocystoplasty), bilateral uretero neocystostomy, bridectomy, right ureterostomy (Mitrafanoff Procedure), colostomy closure, abdomino perinal colon pullthrough (anesthesia), and penile reconstruction were performed. Then, approximately 8 cm incision was made on both iliac bones by us. The sensitive nerves of the iliac apophysis were preserved and divided into two. With the help of the periosteal elevator, the sciatic notch was reached by subperiosteal controlling. Transverse Salter osteotomy was performed on both iliac bones under scopy.

Then, the anterior pubic diastasis was closed and fixed with a cerclage wire. Then, in order to fix the pelvic osteotomy line and increase the stability of the pubic diastasis, a tubular external fixator was applied to 2 supraacetabular areas and 2 iliac bones using Schanz screws. Osteotomy line and symphysis pubis were evaluated with scopy. It was found to be a suitable alignment (figure 2).

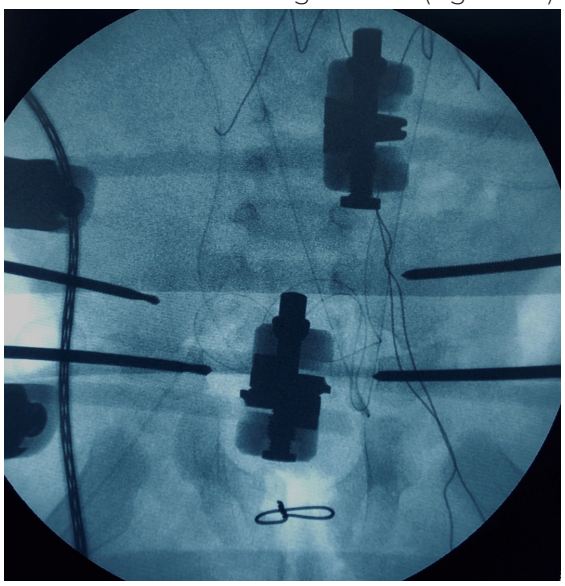

Figure 2: Intraoperative flouroscopic imaging at the first surgery.

It was observed that there was a perfusion disorder in the right leg after the operation. It was observed that the distal capillary filling was impaired and the right lower extremity was cyanosed. Although the right femoral artery catheter was removed, vascular circulation did not improve and cardiovascular surgery was included in the operation. Embolectomy was performed with 3 French embolectomy catheters in the right femoral artery and vascular circulation was observed to improve.

The patient was evaluated at the visit made at the 12th hour postoperatively. Neurological examination could not be performed because the patient was followed up as intubated. It was observed that the right femoral and popliteal pulses were taken, the soles of the feet, the back of the feet and the 2nd, 3rd, 4th and 5th fingertips of the right feet were cyanotic. It was deemed appropriate to follow up the patient with heparin infusion. In addition, it was found that the circulation of the glans penis was impaired. The patient was re-operated together with pediatric surgery and 1 vicryl suture was used to bring the cerclage wire in the pubis and the anterior abdominal wall closer. The anatomically combined symphysis pubis was loosened and separated partially.

As a result of the return of the glans penile circulation to normal within the postoperative 15th day, a reconjoin operation was performed using 1.0 pds suture for pubic diastasis. 1 Schanz screw in the right iliac bone was removed due to loosening. It was observed with scopy that the position was appropriate. Dressed follow-up was performed for ischemic pulp necrosis in the necrotic area in the 5th finger pulp was followed by debriding (figure 3).

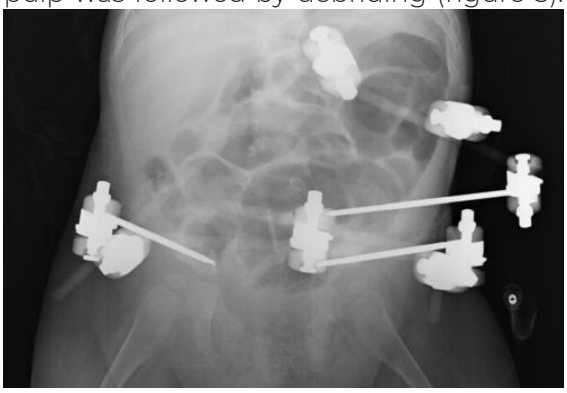

Figure 3: Anteropesterior X-ray graphy on the 15th day.

The external fixator was removed after seeing in the x-ray graphy taken on postoperative day 63 that the pelvic osteotomy line was setting (figure 4).

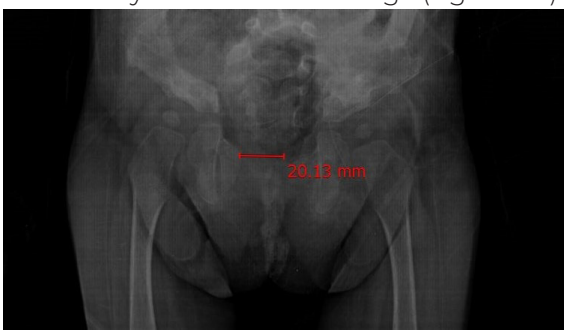

Figure 4: Anteropesterior X-ray graphy on the 63th day.

It was observed that there was no diastasis and the pelvis was stable. The symphysis pubis gap was measured to be 2.1 cm. It was observed in the patient follow-up that the patient could actively perform hip and knee flexion, but not ankle dorsi-flexion. It was observed that the pulp necrosis in the 2nd, 3rd, 4th and 5th fingers completely healed with granulated tissue.

DISCUSSION

Bladder extrophy is a complex defect involving the skin tissue, muscle tissue, pelvic bone and soft tissues, bladder and external genital organs of the abdominal wall. In the method to be planned in the correction of this anomaly, it is aimed to improve all these different structures functionally and cosmetically as much as possible.[1,6]

In a study evaluating bone pelvis using three-dimensional CT in patients with classical bladder extrophy, it was found that the iliac wing angle was 11.4 degrees wider than the control group, the sacroiliac joint showed 9.9 degrees external rotation and the pelvis showed 14.7 degrees rotation in the supero-inferior plane. It was seen that the mean pubic diastasis of 0.6 cm in the control group was 4.2 cm and the intertriradiate distance of 4.2 cm in the control group was 6 cm.[6] In another study in which pelvic bone and soft tissues were evaluated by CT, it was found that the elevator ani muscle was wider in this anomaly and it supported the bladder and posterior urethra less. Again, the pelvic structure has been reported to be substantially flattened in sagittal and coronal sections.[7] External rotation of the pelvic wings causes lateral rotation of the elevator ani and obturator muscles. In this case report, the patient's 3D tomography was taken and pelvic measurements were evaluated. Accordingly, pelvic rotation in the antero-posterior plane was 41.4 degrees, pelvic rotation in the supero-inferior plane was 142.6 degrees, and the iliac wing angle was 150 degrees on the left and right. These values are not similar to the literature. For this reason, 3-dimensional tomography should be performed in the preoperative period, considering that each patient may have unique anomalies and bone deformities. With these measurements, preoperative planning can be made more effective.

Various single or multi-stage surgical procedures are available for reconstruction of the anomaly, including pelvic osteotomies. Studies do not identify an important orthopedic problem in the long term, whether or not there is osteotomy in children with bladder extrophilia, even with symphysis pubis diastasis. Kantor et al reported long-term orthopedic outcomes in children of different ages operated with different techniques with and without osteotomy, and reported no significant differences in hip joint structure and spine structure.[8] Posterior pelvic osteotomy provides better continence in older ages. It creates a suitable area for the bladder and urethra to settle in the abdomen. It is also included in the procedure to support the closure of the abdominal wall. Halachmi et al showed a significant improvement in the size and angle of the elevator ani and obturator muscles in MR imaging after single-stage reconstruction surgery involving anterior iliac osteotomy. They also reported that the support of the posterior urethra and bladder neck increased by increasing the length of the elevator ani.[9] Performing osteotomy can prolong surgery time and partially increase the risk of post-operative complications. However, it significantly increases the success rate of the primary closure of the anomaly.[10] In the presented case, posterior iliac wing osteotomy was applied to both iliac wings. The fixation of the osteotomy line was provided with an external pelvic fixator. After ensuring the rigidity of the fixation, the cerclage wire passed through the holes drilled through the symphysis pubis strengthened the pubic diastase closure.

A fixator or a pin can be placed in pelvic parts to ensure immobilization during osteotomy. These keep the pelvis stable for 4-6 weeks after the operation together with the external fixator. When the specified time has elapsed, the fixator and pin can be removed after seeing callus formation on the radiograph. The fixation of the pelvis can also be achieved by immobilization of the lower extremities through longitudinal traction (modified Buck's traction). Another method that does not require fixation or traction is pelvipedal plastering with similar success and complication rates. In this method, if the child is to be discharged, it is easier to provide immobilization, while the control of the pelvic tension is not as easy as in the external fixator.[11] In our case, an external pelvic fixator was applied for fixation of the osteotomy line in accordance with the literature. Since the strength of the fixation is considered to be sufficient, pelvipedal plaster was not applied in order not to hinder the detection of possible wound problems.

Early operation of the cases of exstrophia vesicalis is important in terms of easier approximation of the pelvic bones, which are still flexible due to maternal hormones.[12] For this reason, in most cases, bilateral pelvic osteotomies are attempted to be applied before the child has completed 72 hours after delivery. Also, early application of primary bladder closure is reported to cause less inflammation and fibrosis in the bladder and less need for urinary correction.[13] In our patient, the first diagnosis was made in an outer center and the first intervention was made in this center. In the first operation of the

patient, a colostomy was opened in order to ensure stool passage. However, due to the large defect in the anterior abdominal wall and the length of the surgical procedure, the osteotomy operation was delayed to be performed after age 1.

Some early and late complications associated with osteotomy have been described. Okubadejo et al studied complications associated with orthopedic approaches in the follow-up of 624 patients with bladder extrophy, which they carried out in their clinics for 14 years. Complications related to orthopedic surgery were observed in 26 patients (4%). They reported bone structure complications in osteotomy region such as bone non-union, delayed bone union, joint pain or inequality in the lengths of the extremities in 5 patients, neurological complications in 13 patients (femoral nerve damage-possibly traction-induced), early deep tissue infections in 2 patients, and late deep tissue infections in 2 patients.[14]

In the retrospective study of 100 patients born with bladder extrophy, Ostrowska et al showed that osteotomy application significantly reduced the rate of op wound site opening after primary closure in addition to the closure of the extrophy.[15] In the presented case, no complication such as non-union of the osteotomy line was encountered. The external fixator was removed on the 63th day of the controls due to callus formation in the osteotomy lines. However, during operation, femoral artery thrombus developed in the patient due to catheterization. Revascularization was achieved as a result of intervention by cardiovascular surgery. Accordingly, ischemic lesions in the 2nd-3rd-4th toes were followed with dressings and healed after granulized tissue. In addition, we think that the neurological deficit that develops in the lower right extremity of the patient is due to thrombus-induced ischemia that occurs more during the operation than osteotomy.

The most common late complication in women born with bladder extrophy is pelvic organ prolapse. In another study of 67 female patients with an average age of 23 who were born with bladder extrophy and 25 of whom underwent osteotomy surgery, it was reported that the size of the initial diastasis was related to pelvic organ prolapse, but osteotomy did not reduce the risk of prolapse.[16] The most important late complications in men are sexual dysfunction, cosmetic appearance and fertility problems. Reducing symphysis pubis gap can improve the cosmetic appearance of the genital organs but has no effect on sexual function and fertility.[17]

Another complication seen in the presented case was the deterioration in penile blood supply that occurred at the postoperative 12th hour. Partial opening of the sutures in the pubic wings was required to improve perfusion. There are examples of penile complications in extrophy closure surgery in the literature, and the pathogenesis of extstrophy or epispadias during the repair of the terminal arteries of the penis or increased pelvic pressure after pubic approximation, compression of the pudental vessels and venous congestion has been held responsible.[18] In a study, a 50% reduction in perfusion was detected by approximating the pubis in tissue perfusion measurement performed during laser angiography closure of extrophy.[19] If congestion develops after pubic closure, it is recommended to remove the intrapubic suture and bring it forward to the pubic arm.[20]

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Journal of Medical Cases Updates 2021;1(1):10-11

A traumatic phacocele after blunt trauma: A case report

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ABSTRACT

In this article, we aimed to present a case of traumatic phacocele after blunt trauma. A 49-year-old female patient was admitted to our outpatient clinic due to pain, loss of vision and bleeding in the left eye due to a cow hit. In the ophthalmological examination, vision was light positive in the left eye. Intraocular pressure was digitally hypotonic. Bio-microscopic examination revealed intense subconjunctival hemorrhage and edema in the superior quadrant, and hyphema in the anterior chamber. Fundus could not be detected. The operation was performed under general anesthesia due to the suspicion of a possible scleral perforation. It was observed that the crystalline lens prolapsed towards the subconjunctival area. Primary scleral repair and anterior chamber lavage were performed. Due to intense vitreous hemorrhage, vitrectomy and endolaser were performed two weeks later. A scleral fixation lens was applied to the patient 2 months later.

Keywords: blunt trauma; phacocele; scleral rupture

INTRODUCTION

Phacocele, which is the dislocation of the crystalline lens to the subconjunctival area after blunt trauma, is a rare complication.[1] A previous history of ocular surgery, the presence of diseases that may affect the scleral tissue such as rheumatoid arthritis and scleritis, decrease in tissue elasticity due to advancing age may be factors that facilitate scleral perforation.[2, 3] Although it is rarely seen, the presence of swelling and hemorrhage in the subconjunctival region after blunt trauma and a careful biomicroscopic and ultrasonographic examination may support the diagnosis.

CASE REPORT

A 49-year-old female patient was admitted to our emergency outpatient clinic due to bleeding, blurred vision and pain in the left eye due to cow hit. In the examination made in the polyclinic; corrected good visual acuity right eye 10/10, left eye light perception p+. Intraocular pressure was 15 mmHg in the right eye and digital hypotony in the left eye. In the bio-microscopic examination, the anterior segment of the right eye was observed naturally. Bio-microscopic examination of the left eye revealed intense subconjunctival hemorrhage and edema throughout the superior quadrant, and intense hyphema in the anterior chamber. Computed tomography revealed lens dislocation and appearance compatible with globe perforation (Figure 1). The conjunctiva was dissected 180 degrees superiorly under

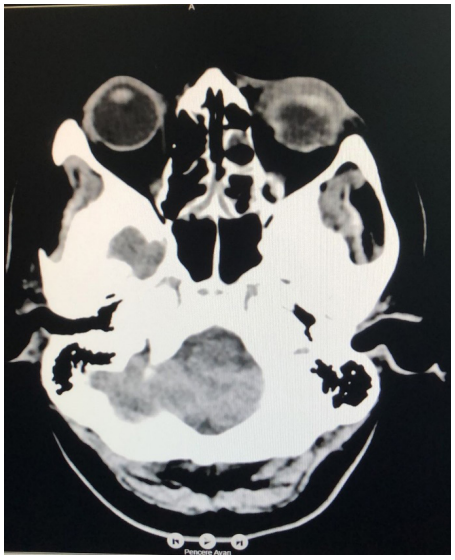

Figure 1: CT image of the left eye

general anesthesia. In the operation, it was observed that the crystalline lens prolapsed from the scleral perforation area to the subconjunctival area in the superior quadrant (Figure 2). Lens tissue was removed from the wound site. It was observed that the perforation line

Received: 17.06.2021 **Accepted:** 21.06.2021

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Cite This Article: Yıldırım Can H, Koru M,Karahan E. A traumatic phacocele after blunt trauma: a case report 2021; 1(1):10-11.

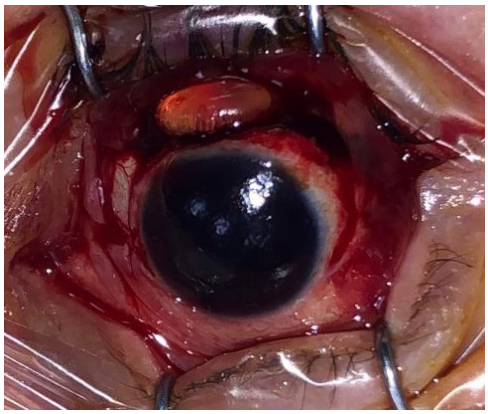

Figure 2: Dislocated crystalline lens in the superior quadrant

extended from approximately 2 mm above the limbus from 11 o'clock to under the lateral rectus. The lateral rectus muscle was separated from the insertion site and the entire scleral perforation area was sutured with 7/0 vicryl.After anterior chamber lavage, the conjunctiva was sutured with 8.0 Vicyrl and closed. On the first postoperative day, visual acuity was P+ in the left eye, high intraocular pressure was detected by digital palpation(fingertip test), and total hyphema was observed-via slit lamb examination. 300cc intravenous mannitol and anti- glaucomatous drops were added to the patient's treatment. On the 2nd postoperative day, it was observed that the hyphema started to dissolve. In the ultrasonographic examination, it was determined that there was hemorrhage in the vitreous. Two weeks after the trauma, vitrectomy, endo-laser photocoagulation and fluid air exchange were applied to the patient due to vitreous hemorrhage. On the postoperative first day of the second operation, visual acuity was at the level of hand movement, slit-lamp examination of 10 mmHg intraocular pressure revealed that the cornea was transparent and the anterior chamber was formed. In the follow-up examination 1 month later, there were corrected visual acuity of 0.3, intraocular pressure of 10 mmHg, bio-microscopic examination revealed that the clear cornea , and fixed dilated pupil. In the fundus examination, it was noted that the retina was attached and there was no hemorrhage. One month later, a scleral fixation lens was applied to the patient. Informed consent was obtained from the patient that medical data could be published for this case.

DISCUSSION

Perforation cases that occur as a result of ocular trauma are among the emergencies of ophthalmology and are a condition that must be managed quickly and carefully. Presence of intense subconjunctival hemorrhage and hypotonia should suggest an occult perforation.[4] Although traumatic phacocele is rare, the diagnosis of patients can be made by b-scan Ultrasonography, Anterior segment OCT, Computed Tomography, Ultrasound Biomicroscopy with bio- microscopic examination.[5] However, as in our case, the inability to distinguish anterior chamber details due to the presence of hyphema and intense subconjunctival hemorrhage made the diagnosis difficult. Vitreous hemorrhage and retinal detachments may accompany these cases.[6,7] Although there are a limited number of cases reported in the literature, the most common location of the crystalline lens is the upper nasal quadrant near the limbus, the second most common location is the upper temporal quadrant.[3,7] In the treatment, the wound should be explored as soon as possible and the lens should be removed from the tissue. Repair of scleral rupture and, if necessary, partial vitrectomy should be performed. IOL implantation can be left to a later session depending on the situation of the case.[8] Rarely, traumatic phacocele can be seen in blunt trauma cases. A careful anterior segment examination, accompanied by USG, Anterior Segment OCT, and Computed Tomography may be helpful in diagnosing traumatic phacocele.

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Journal of Medical Cases Updates 2021;1(1):12-17

Rectus abdominis muscle abscess due to possible infection of spontaneous hematoma: An unusual presentation

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ABSTRACT

Rectus abdominis muscle abscess due to infection of spontaneous rectus sheath hematoma is an uncommon clinical condition. There are many predisposing factors known to cause rectus abdominis muscle abscess and rectus sheath hematoma. If an abdominal wall abscess is not diagnosed and treated in time, it can have serious consequences for life. It is rare for rectus muscle abscess to be detected incidentally without risk factors and clinical symptoms. Clinically, abdominal wall abscesses or hematomas can mimic many abdominal diseases. In this case, we preferred to do a biopsy because even the laboratory and imaging findings were not helpful enough in diagnosis. This case of rectus abdominis muscle abscess highlights the need for a high index of suspicion for patients who present without clinical symptoms and do not conform the usual natural history of the abscess, particularly if they have no risk factors for infection.

Keywords: rectus abdominis muscle; abscess; hematoma; ultrasonography; computed tomography

INTRODUCTION

An abscess is a localized collection of pus that is confined by an inflammatory tissue. This collection composed of cellular debris, enzymes, and liquefied remnants which can be from an infection or non-infectious source. Abscess cavity may be unilocular and multilocular, and clinically, it can also be classified as simple or complex. It can develop almost anywhere in the body. When it occurs in the anterior abdominal wall and extends into the abdominal cavity, it is usually confined to some part of the peritoneal or intraperitoneal structures. In general, drainage and antibiotics are used in the treatment of abscess. If left untreated, it can result in serious conditions such as septic shock.[1, 2] Rectus abdominis muscle abscess (RAMA) is a type of abdominal wall abscess (AWA). RAMA due to infection of the spontaneous rectus sheath hematoma (RSH) is a relatively rare clinical condition. RSH has been strongly associated with predisposing factors such as trauma, anticoagulation, surgery, and strong rectus muscle contractions. It usually occurs as a result of injury to the epigastric vessels or direct rectus muscle rupture. It is an uncommon cause of abdominal pain and swelling, and may mimic other acute and chronic abdominal pathologies. Although RSH is generally accepted as a self-limiting condition, it may result in death in some cases. Its treatment can be conservative or invasive depending on the patient's condition.[3, 4] We present a case of rectus abdominis muscle abscess due to possible infection of a spontaneous RSH, in a young patient without associated clinical symptoms and medical history (e.g., trauma, anticoagulation, surgery, etc.). In this context, AWA and RSH were discussed separately in this article.

CASE REPORT

A 36-year-old male patient was referred to the Radiology department for abdominal ultrasonography (USG) as part of a routine medical check-up. The general condition of the patient was quite good and there was no significant finding except for kidney stone disease in his anamnesis. Physical examination findings were within normal limits (HR: 86 beats/min, BP: 115/75 mmHg, RR: 16 breaths/min, BT: 37.4 °C). Laboratory studies showed only leukocytosis as an abnormal finding (WBC: 18x10³/µL, Hemoglobin: 15.1 g/dl,

Received: 05.04.2021 **Accepted:** 18.05.2021

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Cite This Article: Akyol M, Çiçekçi M, Gültürk B, Kılıçarslan A. Rectus abdominis muscle abscess due to possible infection of spontaneous hematoma: An unusual presentation. 2021; 1(1):12-17.

Hematocrit: 44.6%, INR: 0.9). Abdominal USG incidentally showed a lesion with heterogeneous appearance and irregular shape in the left lower quadrant of the abdomen. The lesion was partially located in the lateral part of the left rectus abdominis muscle, and partially in the intra-abdominal region. The size of the lesion was measured approximately 6x5 cm. The part of the lesion within the rectus abdominis muscle was located near the inferior epigastric vessels. Color Doppler USG revealed a few vascular signals around the lesion, but there was no apparent signal in it (Figure 1A and 1B).

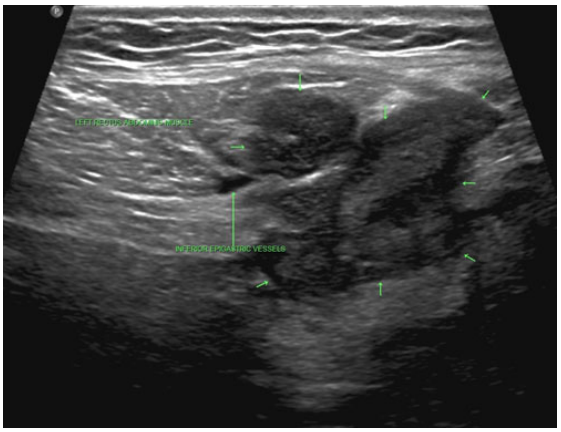

Figure 1a: Transverse gray-scale sonographic image reveals a heterogeneous and irregularly shaped lesion (small arrows) adjacent to the epigastric vessels (long arrow). It is located partly in the rectus abdominis muscle and partly in the abdomen.

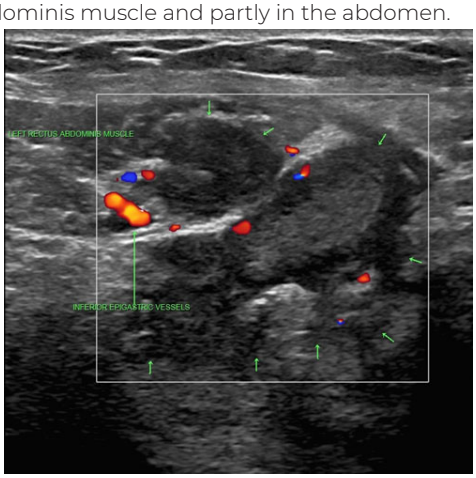

Figure 1b: Transverse color Doppler sonographic image illustrates some peripheral vascular signal with no obvious vascularity within the lesion (small arrows).

The patient did not have any complaints or physical examination findings at the lesion site. Then, we re-evaluated the computed tomography (CT) examinations of the patient previously performed for kidney stones. CT examination without intravenous and oral contrast material performed seven months ago showed a smoothly circumscribed and non-specific lesion adjacent to the left rectus abdominis muscle, with a density similar to muscle tissue, approximately 1x1 cm in size (Figure 2A and 2B).

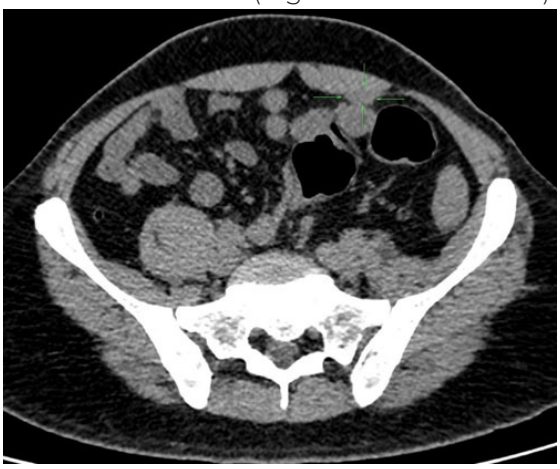

Figure 2a

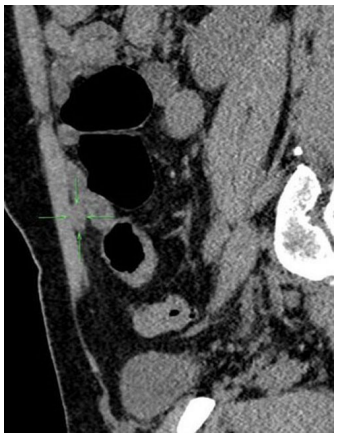

Figure 2b

Second CT examination without intravenous and oral contrast material performed six months ago demonstrated that the size of the lesion was 3x2 cm and its borders were unclear. In addition, there was an increase in the density of surrounding adipose tissue (Figure 2C and 2D).

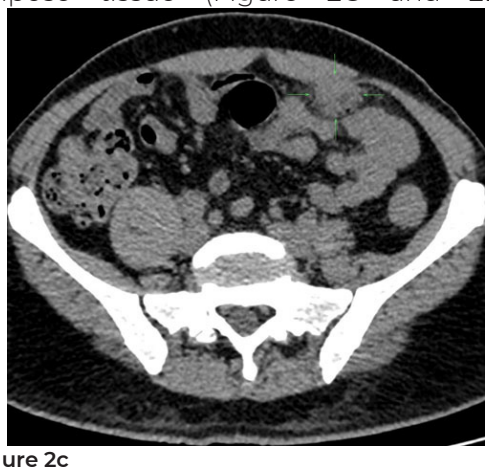

Figure 2c

Unfortunately, this lesion had not been noticed in both CT examinations. In order to further evaluate the lesion, the patient underwent CT examination with intravenous and oral contrast material. CT examination revealed a heterogeneous mass-like invasive lesion, 6x5 cm in size, located partly in the left rectus abdominis

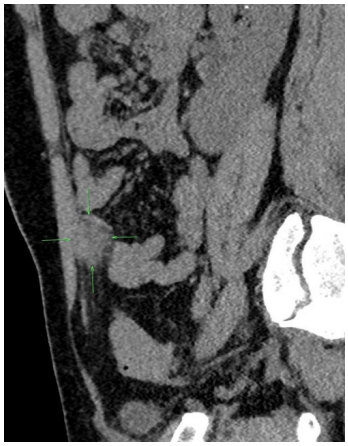

Figure 2d

Figure 2. Unenhanced axial (A) and sagittal (B) computed tomography images demonstrate a relatively well demarcated non-specific lesion (arrows) with soft tissue density adjacent to the left rectus abdominis muscle. Unenhanced axial (C) and sagittal (D) computed tomography images performed one month later display the increase in the size of the lesion, the blurring of its borders, and the increase in the density of the surrounding fat tissue.

muscle and partly in the abdomen, which was irregularly shaped and showed heterogeneous enhancement. Moreover, the lesion was partially encircled by the intestines and there was an increase in fat tissue density around it (Figure 3A and 3B).

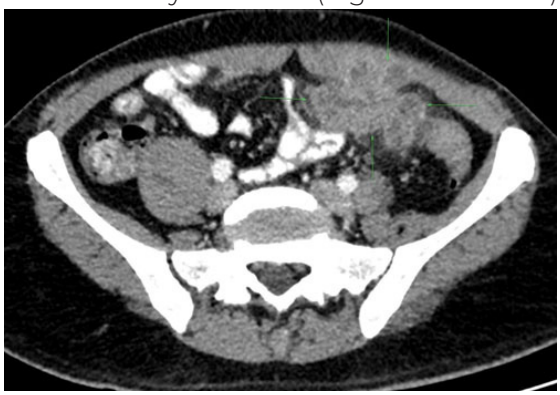

Figure 3a

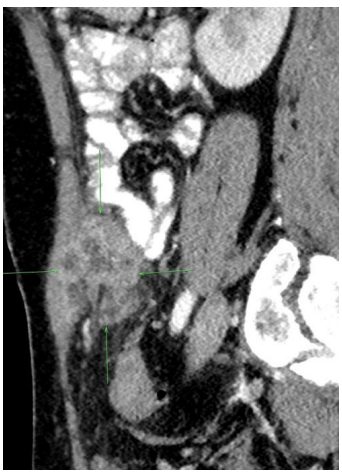

Figure 3b

Figure 3: Contrast-enhanced axial (A) and sagittal (B) computed tomography images delineate heterogeneous contrast enhancement of an irregularly shaped mass-like invasive lesion, located partly in the left rectus abdominis muscle and partly in the abdomen. It is partially surrounded by the intestines and there is an increase in density of surrounding adipose tissue.

Then, we performed a fine needle aspiration biopsy and a cutting needle biopsy to further analyze the lesion. The pathologist reported that the biopsy specimens were consistent with infection, inflammation, and necrosis (Figure 4).

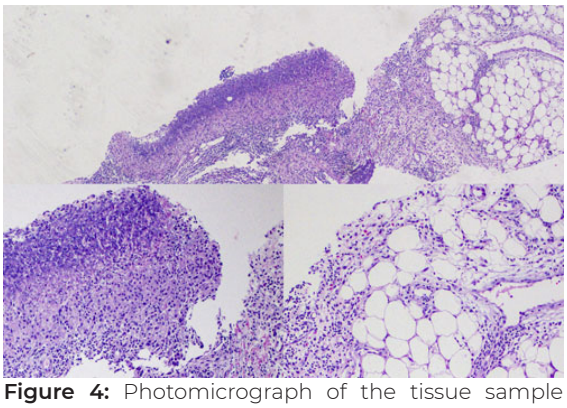

Figure 4: Photomicrograph of the tissue sample from core needle biopsy illustrates the fibrinous area is surrounded by histiocytes, and mixed type inflammation of the surrounding fibroadipose tissue (hematoxylin and eosin stain, original magnification; x50 and x100).

The patient's general condition deteriorated, and hematocrit hemoglobin values decreased approximately five hours after the biopsy was performed. No acute hematoma was observed on emergency CT examination performed in terms of possible acute bleeding owing to biopsy. We kept the patient under surveillance and applied supportive treatment. Ten days of Metronidazole and Ciprofloxacin treatment was initiated with the diagnosis of complex abscess of the rectus abdominis muscle before performing a possible interventional procedure or surgery. A targeted USG examination carried out after the treatment depicted that the size of the abscess reduced to 2x1 cm. Additionally, we observed that the intra-abdominal part of the complex abscess disappeared and was present only within the lateral part of the rectus abdominis muscle (Figure 5A and 5B). His general condition and laboratory values were normal, and he was discharged at his own request. A targeted USG performed in the out-patient clinic one month later showed complete disappearance of the abscess (Figure 5C).

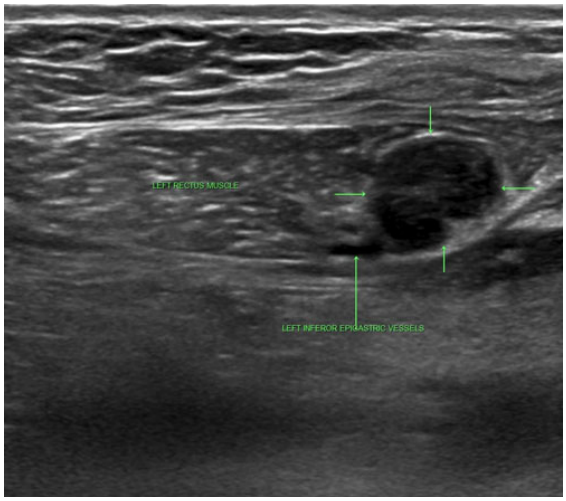

Figure 5a

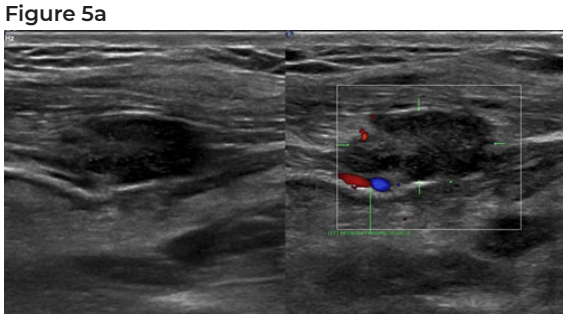

Figure 5b

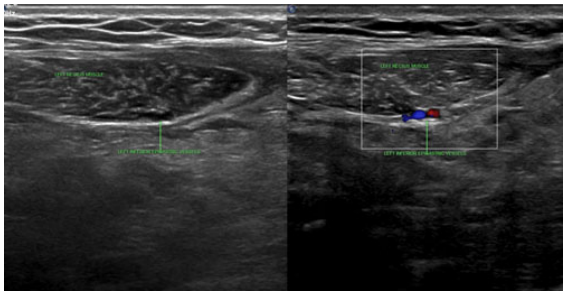

Figure 5c

Figure 5: Transverse gray-scale (A) and oblique color Doppler (B) sonographic images depict the residual lesion within the lateral part of the rectus abdominis muscle and disappearance of intra-abdominal part. (C) Transverse gray-scale and color Doppler sonographic image portrays complete resolution of the lesion.

DISCUSSION

Terminologically, an abscess is defined as a localized accumulation of pus in a cavity surrounded by inflamed tissue. Abscess cavity contains broken-down tissues, dead cells, bacteria, leukocytes, and extracellular fluid. The inflamed tissue surrounding the abscess is also called a capsule. Capsule tissue is mainly made by healthy tissue and cells adjacent to the inflamed area and separates the abscess from healthy tissues by keeping it limited. The capsule may also contain the omentum, inflammatory adhesions or adjacent organs, depending on where it is located. Clinically, it may be called as simple or complex depending on the its radiological appearance. In general, simple abscess is defined as unilocular and well-circumscribed, while complex abscess is described as multiloculated and poorly circumscribed. The abscesses usually contain a mixture of aerobic and anaerobic bacteria. Skin flora may be responsible for abscesses after a penetrating injury. It is a serious condition and to avoid the high morbidity and mortality, it must be promptly diagnosed and treated. If the abscess is left untreated and/or perforated, the process continues until bacteremia develops, which then progresses to sepsis and septic shock.[1, 2, 5, 6]

AWAs may occur owing to spread of skin infection, direct trauma, infection of rectus sheath hematoma, and other abdominal conditions such as appendicitis or diverticulitis. RAMA is a type of AWA and may extend into the abdominal cavity. Patients with an AWA may present with abdominal pain, fever, mass, anorexia, tachycardia, prolonged ileus, and septic shock. Laboratory data is non-specific, and may reveal general features of the infection and/or inflammation such as leukocytosis, elevated acute-phase reactants, abnormal liver function tests, anemia or thrombocytopenia. Plain abdominal x-rays are not sensitive for identifying an AWA. USG is the first line imaging test and can detect the abscess. It is an easy, inexpensive, and radiation-free test. CT is considered the most accurate test. It shows the location and boundaries of the abscess better than USG. All patients with an AWA need close monitoring as they can quickly become septic. Patients should be followed up with regular physical exams, vital signs and imaging tests. Once a diagnosis of an AWA is done, a general surgeon and a radiologist should be consulted. Percutaneous drainage, open surgical drainage and broad-spectrum antibiotics are used in the treatment of AWA, depending on the clinical condition of the patient.[6-8]

The rectus abdominis muscles are two parallel vertically aligned muscles of the anterior abdominal wall. They originate from the superior ramus of the pubis, pubic symphysis, pubic crest and pubic tubercle, and insert into the ventral aspect of the fifth, sixth, and seventh costal cartilages and the xiphoid process. They are separated by a midline band of connective tissue called the linea alba, and located in the rectus sheath formed by the aponeuroses of the lateral abdominal muscles. The arcuate line is a demarcation visible from the peritoneal surface of the abdominal wall, and is located approximately one-third of the distance between the umbilicus and the pubis. It occurs due to the change in composition

of the rectus sheath at this level. The posterior rectus sheath is weak below the arcuate line compared with above, due to the altered course of fascias. The main arterial supply of the rectus muscle and sheath is provided by the upper and lower epigastric arteries. The inferior epigastric artery originates from the external iliac artery, and the superior epigastric artery arises from the internal thoracic artery. Inferior epigastric artery enters the rectus sheath at the level of arcuate line. These arteries, along with the superior and inferior epigastric veins, run within the posterior rectus sheath. While the inferior epigastric artery lacks rectus sheath protection up to the level of the arcuate line, the superior epigastric artery is within the posterior rectus sheath along its course. The rectus abdominis muscles are important postural muscles, and mainly responsible for flexion of the lumbar spine. They also play an important role in breathing, keeping the internal organs intact and creating intra-abdominal pressure.[9, 10]

RSH is an uncommon and often clinically misdiagnosed cause of abdominal pain. It occurs as a result of bleeding into the rectus sheath due to injury to the superior or inferior epigastric vessels or their branches or direct rupture of the rectus muscle. Anticoagulation, surgery, abdominal injections, paracentesis, peritoneal catheter insertion, pregnancy, coagulation disorders, hypertension, atherosclerosis, vasculitis, hematologic diseases, and strong rectus muscle contractions (e.g., coughing, sneezing, exhaustive exercise, defecation) have been described as predisposing factors for developing RSH in the literature. The most common clinical signs and symptoms of RSH consists of abdominal pain, palpable abdominal mass, tenderness, abdominal guarding, nausea, vomiting, fever and chills, in descending order of frequency. Physical examination may reveal tachycardia, hypotension, palpable non-pulsatile abdominal mass, abdominal wall (periumbilical or flank) ecchymosis, and syncope. Moreover, the Fothergill and the Carnett sign on physical examination can help distinguish anterior abdominal wall lesions from intra-abdominal lesions. It is 2-3 times more common in females than in males. RSH is more common and larger in the lower abdominal wall owing to weak posterior rectus sheath. Although RSH is generally a self-limiting pathology, it can cause hypovolemic shock and even death if it reaches adequate expansion. RSH below the arcuate line can expand into the abdominal cavity with relative ease, since there is no strong posterior fascia. Laboratory tests may be normal, or decrease in hemoglobin and hematocrit values and leukocytosis may be observed depending on the severity of the hematoma. Coagulation parameters may be normal or abnormal. USG, CT and magnetic resonance imaging are useful imaging methods in the diagnosis of RSH. Intravenous contrast-enhanced CT may show active extravasation, if present. Further, a classification of RSH has been made based on CT findings, in terms of presentation, severity, prognosis and therapy. RSH has widely variable presentation and different radiological appearances depending on its location and stage. Therefore, other causes of abdominal pain such as appendicitis, diverticulitis, cholecystitis, biliary colic, urinary tract infection, tumors, abdominal aneurysm, intestinal obstruction, ovarian torsion, nerve entrapment and hernia should be considered in the differential diagnosis. Its treatment can be conservative or invasive according to the patient's condition. Physicians should be familiar with RSH because it can mimic almost any abdominal condition. RSHs do not usually recur after resolution and typically do not cause long-term sequelae.[4, 9, 10]

Our case was a young patient who did not have any predisposing factors and complaints associated with abscess. Therefore, we initially considered the possibility of an invasive complex mass or a complicated mass. In this case, when the history, physical examination and laboratory findings were evaluated together, the only remarkable clue was leukocytosis, which is a non-specific sign. The heterogeneous contrast enhancement and invasive appearance of the lesion on CT increased our concern about the possibility of this lesion being a tumoral mass. For this reason, we chose to do a biopsy. In this case diagnosed with complex abscess, we could not explain the development of abscess without risk factors, and the lack of abscess symptoms. Furthermore, although there was no acute hematoma in the abdomen after the biopsy, we could not clarify the sudden decrease in hemoglobin and hematocrit levels and the return of these values to normal after a few days. Another point that attracted our attention was that the complex abscess firstly shrunk, and then disappeared completely after ten days of antibiotic treatment, without the need for drainage. In addition, we concluded that the abscess was caused by the infection of the RSH since it is in the immediate vicinity of the epigastric vessels.

In summary, we report a patient with unusual presentation of RAMA due to possible infection of spontaneous RSH

without associated clinical symptoms and medical history. Previously reported cases of RSH have been associated with anticoagulants, trauma, surgery, and other risk factors. This unusual case reveals that RAMA and RSH should be considered in the differential diagnosis of lesions located adjacent to the epigastric vessels, even if there are no supportive anamnesis and clinical signs.

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Journal of Medical Cases Updates 2021;1(1):18-20

Concha bullosa mucopyocele: Case report

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ABSTRACT

Concha bullosa is an anatomical version of the middle turbinate that is commonly found. Turbinates Pneumatization is unusual in the inferior and superior turbinates. Despite its typically asymptomatic nature, Concha bullosa can cause headaches, nasal congestion, and sinusitis.

Clinical entities such as mycetoma, pyocele, and polyps may be found in concha bullosa, but they may be rare. Mucocele may be produced by blocking the concha bullosa mucociliary transport, and concha bullosa mucopyocele can be triggered through mucocele infection. A patient suffering from middle turbinate mucopyocele contributing to unilateral nasal blockage and headache is presented in this case report.

Keywords: Concha bullosa, middle turbinate, mucopyocele, sinusitis

Introduction

Concha bullosa is defined as aeration of the middle turbinate.[1-3] Concha bullosa is detected incidentally, not by clinical findings, but by imaging techniques, particularly CT scanning. This term is mostly used to describe the middle turbinate. However, it is rarely seen in superior and inferior turbinate cases.[4] In most cases, no treatment is required for concha bullosa. However, large concha bullosa can cause headache, obstruction of sinus drainage and nasal congestion ([5]). There is also a risk of mucocele development in concha bullosa. This condition is likely to occur if the drainage of the concha bullosa is blocked. Concha bullosa mucopyocele can be seen very rarely as a result of secondary infection of the mucocele.[6]

Case Report

A 63-year-old female patient was admitted to our ENT outpatient clinic with complaints of headache and left nasal obstruction. In her narrative, she stated that she had been examined several times by different branches other than ENT for the last 4 years due to headache, and she applied to the ENT polyclinic with the addition of nasal congestion to her complaints. In the anterior rhinoscopic examination of the case, it was observed that the septum was deviated to the right. A mass extending to the anterior end of the inferior turbinate was detected in the left nasal cavity. The lesion suggesting a soft tissue mass completely filled the left nasal cavity and pushed the septum to the right (Figure 1).

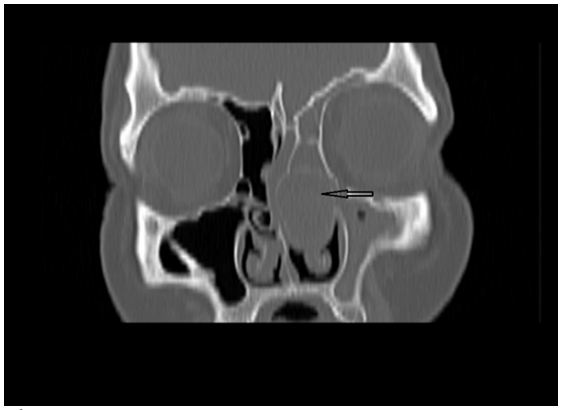

Figure 1: Image of the mass completely filling the left nasal cavity in the paranasal CT section.

These were detected on paranasal CT imaging. In addition, it was determined that the mass lesion was in contact with the left orbital medial wall and originated from the middle turbinate. The patient had no complaints regarding her eye. There were no history of trauma or previous surgery in the patient's anamnesis. As a result of clinical and

Received: 05.04.2021 **Accepted:** 18.06.2021

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Cite This Article: Kar M. Concha bullosa mucopyocele: Case report. 2021; 1(1):18-20.

radiological findings, surgery was planned with the preliminary diagnosis of left middle concha bullosa pyocele. Endoscopic concha bullosa resection was planned and the patient was operated under general anesthesia. Topical and infiltrative anesthesia with lidocaine was also performed for bleeding control. Using a zero-degree telescope, an incision was made with a size 15 scalpel on the part of the mass extending into the nasal meatus. Pus drained as soon as the incision was made. Concentrated pus was also drained. The lateral of the middle turbinate was removed, but the inferior part of the medial remnant of the middle turbinate was partially resected because the middle turbinate was greatly enlarged. Merocele tampon was placed after nasal cavity was rinsed with physiological saline. On the second day, the merocele tampon was removed postoperatively. Oral antibiotics and saline nasal lavage were given to the patient for 7 days. No complications developed in the follow-ups. She was followed up for 2 years without any complaints and relapses postoperatively and she was no longer followed up.

Discussion

Santorini first described middle turbinate pneumatization in 1793.[7] Later, the name concha bullosa was determined by Zuckerkandl.[8] Concha bullosa is mostly asymptomatic, but may be symptomatic due to its mass effect on the ostiomeatal complex and nasal septum.[9] Complications may occur as a result of the enlargement of the concha bullosa pyocele and its expansion towards the surrounding tissues.[10] Infections in the turbinate and those that become closed cavities can cause sinusitis, obstruction in the middle meatus and enlargement of the turbinate. The overgrowth of the middle turbinate can lead to septum thrust in pyocele formation. Similarly in our case, it was observed that the septum was pushed to the right due to the left concha bullosa mucopiocele. In our examination, a turbinate bone surrounding the concha pyocele was detected. In our case, the reasons for admission were headache and nasal congestion. Concha bullosa pyoceles are seen as a conchal mass in endoscopic and anterior rhinoscopy examinations. Paranasal CT method can be used to have detailed and supportive information about sinus and turbinate pathologies. It is the histopathological examination of masses taken with the help of endoscopy to make the absolute diagnosis of concha bullosa pyoceles.[11] Discharge of infected material from the mass may be an important sign in the diagnosis of mucopiocele. Similarly, in the case we examined, dense infected contents were emptied during surgery. Rhinological, orbital and intracranial complications related to concha bullosa pyocele have been reported.[12] Different treatment methods can be performed endoscopically to avoid complications.[13] In our case, the lateral part of the middle turbinate, which was greatly enlarged due to mucopyocele containing infected pus, were excised along with the inferior part.

Conclusion

Concha bullosa mucopyoceles are seen in very few people and are one of the rare diseases. Nasal congestion, headache and nasal mass may be suggestive for the diagnosis of this disease, but additional research is required. Paranasal sinus CT mucopiocele and nasal endoscopy may be helpful in diagnosis, but surgical excision is required for definitive diagnosis.

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