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Case Report Open Access

Osteoma Cutis: Report of One Case

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Abstract

Introduction: Osteoma Cutis is a rarely seen benign disease. The disease localizes in dermis and hypodermis and it is frequently asymptomatic. Pathogenesis is not fully known. It is separated into two groups: primary osteoma cutis and secondary osteoma cutis.

Case Report: In this case presentation, a male patient aged 15 who has localized solid subcutaneous mass, is discussed. It was determined that the mass located on the front wall of abdomen was histopathologically osteoma cutis.

Conclusion: After histopathologic verification of osteoma cutis case is performed, a detailed clinical and laboratory examination must certainly be done for differential diagnosis.

Keywords: Osteoma; Cutaneous tissue; Primary

Abbreviations: OC: Osteoma cutis; POC: Primary Osteoma cutis; SOC: Secondary Osteoma cutis; BMI:Body Mass Index; USG: Ultrasonography; CT: Computer Tomography; EKO: Echocardiography; EF: Ejection Fraction; H&E: Hematoxylin Eosin; MVP: Mitral Valve Prolapse; DTR: Deep Tendon Reflexes; BSR: Basal Skin Reflexes; TW: Tandem Walking; MMSE: Mini-Mental State Examination; EEG: Electroencephalography; AHO: Albright's Hereditary Osteodystrophy; TGF: Transforming Growth Factor; MMOC: Multipl Miliary Osteoma Cutis

Introduction

Osteoma cutis (OC) is a rarely seen benign disease that is frequently determined in females [1-3]. The first case was informed by Wilckets in 1858 [4,5]. The disease is frequently localized on face, chest, breast scalp extremity and hip zone and usually asymptomatic [6,7]. OC is divided into two groups as primary and secondary. Primary osteoma cutis (POC) constitutes 15% of the cases. There is no underlying reason and it coexists with some syndromes. Secondary osteoma cutis (SOC) constitutes 85% of the cases. SOC may develop as a result of metabolic disorder, increased level of serum calcium and thyroid-parathyroid hormonal disorders. It may also develop as a sequela of scleroderma, pilomatricoma, nevus, dermatomyositis, basal cell carcinoma, scars, trauma, skin inflammation, venous stasis and epidermoid cyst [2,8-10]. Although ideal treatment has not been determined definitively, medical or surgical treatment or both treatments are used. In medical treatment topical and systemic drugs and in surgical treatment resection, curretage, dermabrasion and laser are used [2]. In this case presentation, the patient who had POC with multiple locations, which is a rare situation, is discussed and literature is assessed.

Case Report

15 years old male patient who has applied to general surgery polyclinic with solid, painless, surface masses in different parts of his body, is discussed in this case presentation. In the anamnesis of the patient one can see that the masses were there from the age of 2-3 but they grew in the last 2-3 years and the mass in abdomen region produced a prickling sense.

The physical examination findings of the patient were: Arterial Blood Pressure: 105/65 mmHg, Pulse: 72/min Height:162 cm, Weight: 60 kg, BMI (Body Mass Index): 22.8 kg/cm^2. No feature was determined in the systemic diagnosis of the patient. There were multiple, mobile, solid subcutaneous masses such as wide millimetric mass in left subcostal region, approximately 1.5 cm mass in abdominal left down quadrant and millimetric mass in its superior, approximately 2-3 cm mass in left scapula medial, the biggest 1 cm multiple, mobile, solid masses in right temporoparietal, left temporal and left frontal regions. Surgical excision was planned with diagnostic purposes for 1,5 cm lesion in abdominal left down quadrant. Results of hemogram and coagulation tests had normal values. It was totally excised together with skin tissue under local anaesthesia (Cýtanest 3 % vial. Astra Zeneca). Surgical excision material and postoperative incision region are shown respectively in Figure 1 and Figure 2.

In the histopathological examination of surgical excision material, macroscopically 2×1×0,4 cm sized tissue sample with 1,5×1 cm skin epithelium and microscopically osseous tissue plates formed from trabeculas with osteoblastic rim around, localized on dermis in the tissue covered with epidermis and fatty tissue in asseous tissue in medullar regions were reported (OSTEOMA CUTIS). Histopathological findings are displayed in Figure 3.

As a consequence of this histopathological finding, a detailed cardiological, neurological, psychiatric examination, abdominal USG (Ultrasonography), cranial CT (Computer Tomography) and laboratory tests were done for differential diagnosis.

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Ventricle functions of the patient in the scanned echocardiography were normal. EF (Ejection Fraction) was measured as 60%. No cardiac anomaly was found except for MVP.

He was conscious, cooperative and oriented in the neurologic examination. Immediate, recent, remote memory was complete. Recalling: 3/3. Cranial area and fundus oculi was natural. Muscle strength was perfect. Chvostek and Trosseau was negative. DTR (Deep Tendon Reflexes):++/++. BSR (Basal Skin Reflexes) flex. Sensation and cerebellar examination were normal. Walking was normal TW (Tandem Walking) capable. MMSE (Mini-Mental State Examination): 26/30. EEG (Electroencephalography) was normal.

Abnormal radiological findings were not encountered in the abdominal USG and direct graphies of the patient. Brain parenchyma tissue was normal in cranial CT. The biggest approximately 1 cm long, 2 mm thick subcutaneous hyperdense calcifications were seen in the region extending from superior of right temporal fossa to perietal region, in frontal region and in left temporal region. Cranial CT is displayed in Figure 4.

The laboratory findings of the patient are displayed in Table 1.

Discussion

OC is an asymptomatic benign disease localized in dermis and hypodermis that is frequently seen in females. (1, 3, 11, 12). The reason why the disease is more frequently seen in the females is still not known (5). It is divided into two as POC and SOC. POC forms 15% of the cases. There is no underlying reason in etiology or it co-occurres with some syndromes. The most known syndromes are Albright Hereditary Osteodystrophia (AHO), platelike OC and progressive osseous heterotropism [13-15]. AHO determined syndrome with POC asserts itself with short height, round face, brachydactyly, obesity, ectopic soft tissue or dermal ossification (OC) and psychomotor retardation [16]. However SOC forms 85% of the cases. SOC may appear as sequela of scleroderma, pilomatricoma, nevus, dermatomyositis, basal cell carcinoma, scars, trauma, skin inflammation, venous stasis and epidermoid cysts [2,8-10].

Pathogenesis of this disease is not yet known completely. But the most accepted theory is local metaplasia of mesenchymal cells. Fibroblasts that develop bone tissue may be given as examples of

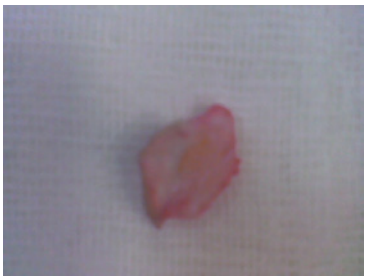

Figure 1: Excision Material.

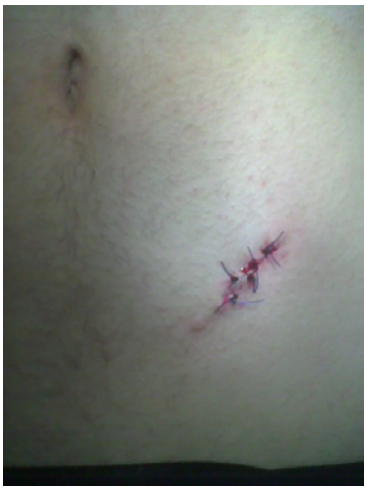

Figure 2: Postoperative incision region

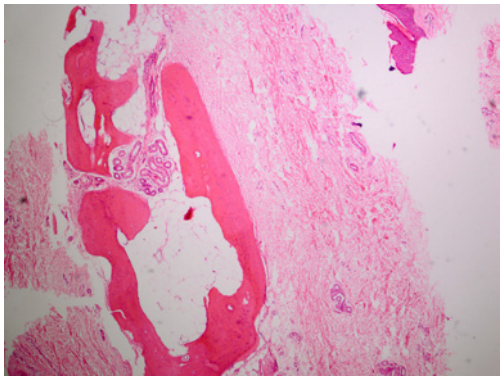

Figure 3: Histopathological Findings (H&E. ×40).

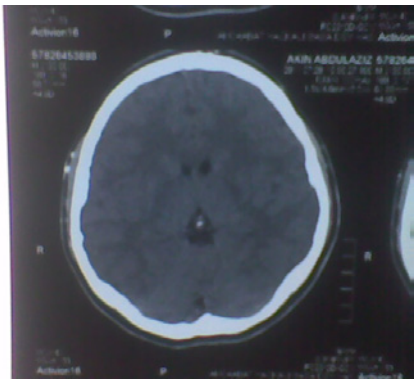

Figure 4: Cranial CT.

Paremeter	Value	Normal Value
Hemoglobin (g/dL)	15	12-17
Hematocrit (%)	44.1	36-52
Thrombosit (../mm3)	302	140-450
PTH (pg/mL)	33.4	5-68.3
TSH (µg/mL)	0.99	0.35-4.94
fT3 (ng/dL)	3.77	1.71-3.71
fT4 (ng/dL)	1.07	0.70-1.48
CK (mU/mL)	165	39-308
Total Bilurubin (mg/dL)	2.315	0-1.1
Direct Bilurubin (mg/dL)	0.54	0-020
AST (mU/mL)	20.9	0-38
ALT (mU/mL)	9.6	0-41
ALP (mU/mL)	95	35-129
GGT (mU/mL)	10	5-61
LDH (mU/mL)	193	135-225
Calcium (mg/dL)	10.32	8.2-10.2
Phosphorus (mg/dL)	2.91	2.69-4.49

Table 1: Laboratory Findings.

mesenchymal cells. These fibroblasts develop bone tissue with the possible changes in oxygen density, P^H, enzymatic activity, high activity of alkaline phosphatase, local concentration of calcium and phosphor, collagen Type 1, 3 and TGF (Transforming Growth Factor) in medium. The other theory mentions about an embryological disorder. According to this theory primitive mesenchymal cells accidentally migrate to other locations after they are transformed to osteoblasts [1,17-20].

The main treatments of POC and SOC are excision and primary suture. Surgically punch, excision, curettage and dermabrasion may be applied. In medical treatment administration of topical 0.05% tretinoine or azelaic acid; yag laser, CO_2 laser and TCA for ablation of epidermis; precede the transepidermal removal of 100% osteoma [1,5,12,18,19,21-23].

Myllylä RM et. al. [24] informed 4 cases of multiple miliary OC (MMOC) and performed a literature evaluation in the paper published in 2011. In this paper they mentioned that there were 47 MMOC cases determined between 1928-2009 and 41 of them were female. Furthermore, they emphasized that only 15% of these were extrafacially localized and 55% were related to acne. Ayaviri et.al. [2] informed about localized POC cases in head region in the paper published in 2006. In this case presentation however they state that 50 OC cases were reported in literature since 1858 [2]. In the case presented by us, we did not determine any lesion in facial localization although there were OC in many locations of the body. Bergonso et al. [1] informed primary miliary osteoma in face region in 3 patients in 2002.

We closed with primary suture the mass in abdominal left down quadrant with the epidermis tissue over it after totally excising it. We determined with histopathological examination that it was OC. We could not determine any underlying factor with detailed clinical and laboratory examination so we identified it as POC. We did not apply any surgical process to other lesions located in the other regions of the patient because they did not disturb him and the patient did not want.

Conclusion

OC, especially POC is a rarely seen disease. When there is a clinical doubt about it, it must certainly be defined histopatologically. However, for differential diagnosis, detailed clinical, laboratory and radiological assessment must be done. Metabolic disorders, thyroid-parathyroid disorders, scleroderma, dermatomyositis, basal cell carcinoma, scars, trauma, skin inflammation and epidermoid cyst must be considered in differential diagnosis.

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