BASOSQUAMOUS CARCINOMA: A RARE CASE OF EAR METASTATSIS IN A 13 YEARS-OLD

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ABSTRACT:
WE PRESENT THE CASE OF A 13-YEARS OLD FEMALE CHILD, WITH A NODULAR TUMOR ON THE EAR LOBE, RESECTED AND INVESTIGATED IN THE PEDIATRIC HOSPITAL OF PITEȘTI, ROMANIA. THE INITIAL CLINICAL DIAGNOSIS WAS OF A SEBACOUS CYST, BUT, AFTER CLOSER INSPECTION AT THE MICROSCOPE, WE DETECTED THE PRESENCE OF SQUAMOID PROLIFERATIONS, WITH KERATINISATION AND BASALOID FEATURES, CONCLUDING THE DIAGNOSIS AS A METASTASIS WITH BASOSQUAMOUS CARCINOMA ORIGIN. BASOSQUAMOUS CARCINOMA REMAINS A RARE FINDING IN CHILDREN AND, IS OFTEN, MISINTERPRETED AS A SUQAMOUS CARCINOMA. THEREFORE, THIS WORK IS INTENDED TO FOCUS THE IMPORTANCE OF THIS DISEASE FOR PATHOLOGISTS WHO INVESTIGATE CHILD DERMATOPATHOLOGY, REGARDING THIS MATTER.

KEY WORDS: BAZOCELLULAR CARCINOMA, BASOSQUAMOUS CARCINOMA, METATYPICAL CARCINOMA, COLLISION TUMOR

INTRODUCTION

Basal cell carcinoma, clinically, may present on sun-exposed skin areas, particularly on face, being more frequent in white adults. Occurrence in young adults, other than in the context of nevus sebaceous, nevoid basal cell carcinoma syndrome, or Rombo syndrome remains exceptional. However, in children, Gorlin syndrome is characterized by basal cell carcinomas, with odontogenic jaw cysts, pitted depression of the hands and feet, osseous anomalies, a broad nasal root and hypertelorism. The indicence of all basosquamous carcinoma (BSQC) remains at 1-2% of all dermatological malignancy cases, having different synonyms: metatypical carcinoma, basaloid squamous carcinoma, or collision tumor, if both components (squamous and basal cell) are even. Futhermore, a BSQC metastasis presents itself as well delimited formation, although its incidence is lower than 5% in children younger than 20 years old[2]. Clinically, BSQC metastasis has no specific features, while the biopsy is the only way to figure out the final diagnosis. Thus, the histopathological diagnosis might be very problematic, because the growth is very slow. There might be encountered areas of basocellular and squamous carcinoma. The cells of basal component are larger, with

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[2] O. Karatas Silistreli, M. Ayhan, Z. Aytug. Periocular metatypical cell carcinoma: Clinicopathologic correlation, management, and follow-up in 35 patients, J Plast Reconstr Aesthet Surg, 2006; 59:1280–1287;

pale cytoplasm, with areas of squamoid features that have abundant eosinophilic cytoplasm. Frequently, it might be visible another area of cells having transitional features intermingled in between both components. Not rarely, characteristic peripheral pallisading and stromal retraction remain inconspicuous. The diagnosis must well document the superposition of basal cell carcinoma with the squamous one[3].

CASE REPORT

The differential diagnosis encompassed lymphoepithelioma-like carcinoma, metastatic ameloblastic carcinoma and Ewing sarcoma. These possible situations were taken into account as the localization of metastasis was more frequent in head and neck regions. However, pathological and imagery criteria were not met for any of these tumors. The final diagnosis was that of a *metastatic bazosquamous carcinoma with local invasion of the left ear lobe.*

We present the case of a 13 years old female child, having a good health status, with no other complaints or symptoms, except for a mass on the left ear lobe, that enlarged within a 6 weeks duration to 1,5/0,7 cm. The rest of clinical examination and imagistics proved no obvious or worrisome lesions. Laboratory routine blood tests proved negative for all counts. The ear-nose-throat department in our hospital referred the case for resection within 2-4 mm margins for esthetical reasons. We received the tissue sample in our Pathology Department, fixed in 10% buffered formalin. It presented as a well delineated, nodular mass, with a gritty aspect, having intermingled white to brown areas and a general non-homogenous aspect (fig nr. 1).

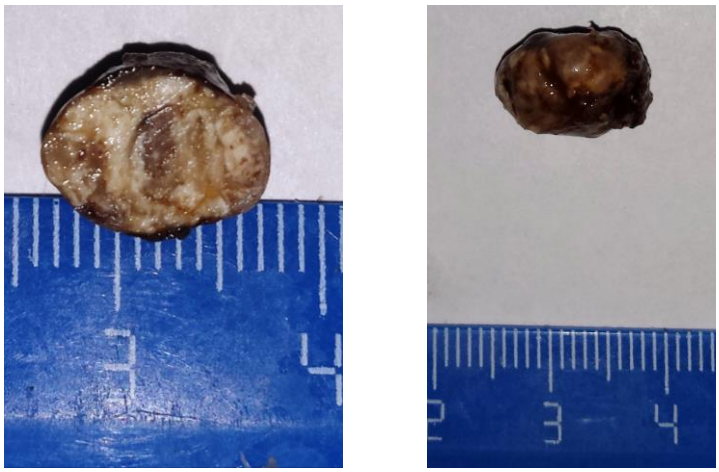

Fig. 1. Resected nodule from left ear in a 13 years old girl. Gritty aspect with variable brown to white coloured areas is visible after sectioning (10% buffered formalin).

After tissue processing in successive alcohol concentrations (70, 80 and 96 degrees), paraffin embedding and sectioning with haematoxilin and eosin staining, we found definite squamous areas with ortho- and parakeratin forming pearls with basaloid features, without peripheral pallisading and with pseudo-stromal retraction (fig. nr. 2). These carcinomatous entities were detected inside dilated, ectatic blood vessels encircled by a desmoplastic, lymphoplasmocytic infiltrated fibrous strands, as the metastatic cells already invaded within the local perivascular connective tissues (fig. nr. 3). In transitional areas, more visible towards the basaloid areas, squamous morules were detected, thus proving the tendency for squamous differentiation. Atypical mitoses were found exclusively in basaloid areas of the BSQC, approximately 5 to 6 mitoses per field.

The case was reviewed interdisciplinary – pediatric surgeon, ear-nose-throat senior specialist, pathologist – for oncological treatment in a regional specialized department for similar pediatric cases.

[3] R.C. Martin, M.J. Edwards, T.G. Cawte. Basosquamous carcinoma: Analysis of prognostic factors influencing recurrence, Cancer.,2000; 88:1365–1369;

DISCUSSION

The differential diagnosis encompassed lymphoepithelioma-like carcinoma, metastatic ameloblastic carcinoma and Ewing sarcoma. These possible situations were taken into account as the localization of metastasis was more frequent in head and neck regions. However, pathological and imagery criteria were not met for any of these tumors. The final diagnosis was that of a *metastatic bazosquamous carcinoma with local invasion of the left ear lobe.* For definitive diagnosis, immunohistochemistry is necessary, although it has limited value. Representative paraffin embedded tissue samples should reserved for immunostaining with AE1/AE3, bcl-2, TGF-A, Ver-EP4, p53 molecular antibodies. With this kind of approach, it might be best visible the transitional area between the two components of the BSQC[4]. The optimal way to observe this kind of transitional cellular effect is with Ber-EP4, who is detected in all basocellular tumors. This might indicate the presence of a pluipotential cell capable of differentiation trough a genetical mutation, causing frequent appearance of metastasis in such a young age[5].

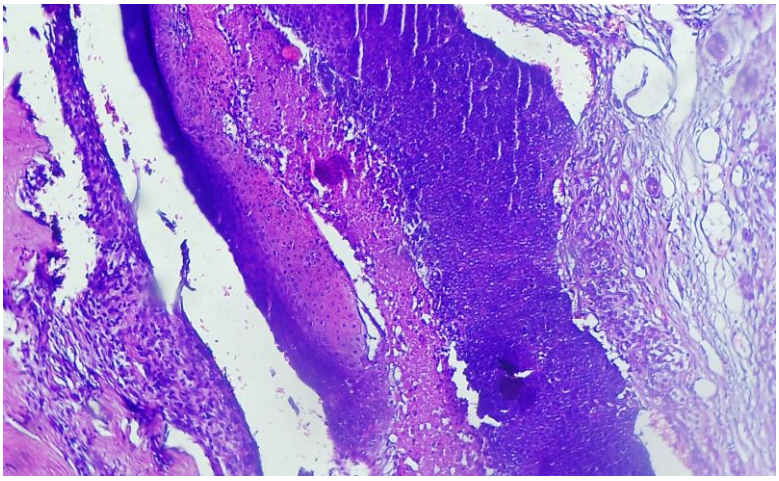

Fig. 2. Basaloid areas toegether with squamous differentiation in the resected tumor; metatypical morules are visible (center) with few mitotic figures

Main therapy is represented by resectional surgery with security margins and chemotherapy, although this kind of tumor remains unresponsive, especially with oncological radiotherapy and pharmacological approach, in metastastic disease. In chemotherapy, we might use doxorubicin, cisplatin, fluorouracil in varying cycles, depending of CT volumetric response of the main tumor[6].

[4] B. Lennox, A. Wells. Differentiation in the rodent ulcer group of tumors, Br J Cancer, 1951, 5:195–212;
[5] M.S. Jones, K.F. Helm, M.E. Maloney; The immunohistochemical characteristic of the basosquamous cell carcinoma, Dermatol Surg., 1997; 23:181–184;
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CONCLUSIONS

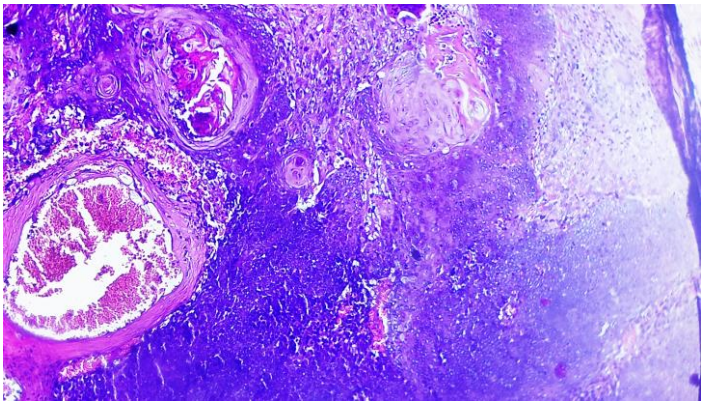

Fig. 3. Squamoid features are intermingled with basaloid ones. Perivascular invasion is visible toegether with squamou pearls and atypical mitoses (10x20, HE).

This collision tumor or BSQC remains with an overall low frequency among all cutaneous malignancies, in children; it has origins in basal cells of the epidermis, and a high potential for metastasing or invasion, especially because of the squamous features.

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CRUSHING INJURY WITH INFECTED FEMORAL FRACTURE - CASE PRESENTATION

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ABSTRACT
LIMB TRAUMA ARE OFTEN EVALUATED ONLY REGARDING THE BONE INJURY, THUS NEGLECTING THE IMPORTANCE OF SOFT TISSUE DAMAGE, WHICH MAY LEAD TO SEVERE COMPLICATIONS; ESPECIALLY IN CLOSED HIGH ENERGY TRAUMA, SUCH AS CRUSHING INJURIES LACK OF PROPER DEBRIDEMENT OF INJURED TISSUES RESULTS IN SEPTIC COMPLICATIONS, DUE TO BACTERIAL AFFINITY TO NECROTIC STRUCTURES. WE PRESENT A CASE OF AN INFECTED ISOLATED CRUSHING INJURY OF THE THIGH (TRAFFIC ACCIDENT), ASSOCIATING A COMMINUTED FEMORAL FRACTURE AND SEVERE SOFT TISSUE INJURIES, WITH EXTENSIVE MUSCULAR NECROSIS. COMPLEX SURGICAL TREATMENT INCLUDING REPEATED DEBRIDEMENTS WAS NECESSARY FOR HEALING THE INFECTION AND SEQUENTIAL METHOD WAS USED FOR STABILIZING THE FRACTURE. THE OUTCOME OF THE PATIENT WAS FAVORABLE BUT ONLY AFTER SERIAL DEBRIDEMENTS AND LAVAGES NEUTRALIZED THE INITIAL CONTAMINATION. THIS CASE DEMONSTRATES THE IMMEDIATE AND SECONDARY COMPLICATIONS OF CRUSHING INJURIES WHICH MUST BE TAKEN INTO CONSIDERATION WHEN TREATING THIS TYPE OF TRAUMA.

KEYWORDS: HIGH ENERGY TRAUMA, FEMORAL FRACTURE, CRUSHING INJURY, SEQUENTIAL METHOD

CLINICAL CASE

INTRODUCTION: Crushing trauma of the extremities is characterized by a traumatic agent acting upon a certain segment of a limb which is situated on a tough surface, thus playing the role of a counteraction. So, the injuries are produced by the sum between: the energy of the traumatic agent and the counter-resistance, thus generating extensive muscular necrosis; this post-traumatic rhabdomyolysis which threatens not only the functional outcome

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[6], but also the vitality of the injured limb, is responsible for the systemic effects of crushing injuries, called "the crushing syndrome ", which threatens the life of the patient in most severe cases [7]. In order to avoid limb or life loss, early complete treatment in a multidisciplinary team is mandatory, including complete surgical debridement and fracture stabilization [8]. Due to the evolving character of the crushing injuries, the debridement must be repeated until all the necrotic tissue is excised, so as the oxygen provided by the vital muscles to ensure healing of the bone and soft tissues and avoid infection [9].

METHODS: We present a clinical case reflecting the difficulties in treating crushing trauma once septic complications have installed. The patient, male, 45 years old, without any other comorbidities, was admitted in the Orthopedics and Trauma Clinic of Clinical Emergency Hospital Bucharest 4 days after a traffic accident by transfer from a county hospital, with a crushing injury of the thigh and open femoral fracture. On admission, the patient presented with a tensioned suture on the thigh, blisters, areas of skin necrosis and a partially stable external fixator (ExFix), without proper reduction of the fracture.

Fig 1 - Radiologic view of the fracture and initial external fixation

Fig. 2 - Tension sutures, blisters, areas of skin necrosis

Initial aspect suggested increased tension of the subcutaneous structures, determining the blisters; the sutures were removed and the wound on the anterior aspect of the thigh became dehiscent, with a considerable residual skin defect; using an external incision,

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thorough debridement was performed, revealing large quantities of muscular debris, associated with soft tissue oedema , fascial oedema (aspect of fasciitis) and modified aspect of the hematoma, thus raising the suspicion of infection, later confirmed by cultures .

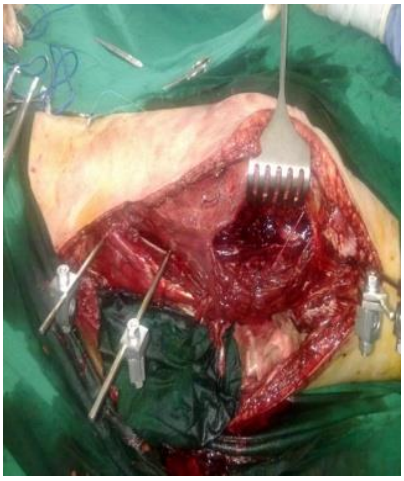

Fig. 3 - Initial debridement

The ExFix was converted to a proper one, with enough pins on each side of the fracture site; repeated lavages and necrectomies (“second look") were performed, because crushing injuries usually have an evolving aspect, and more soft tissues become necrotic from day to day. General antibiotic treatment was started with broad spectrum antibiotics and then performed according to the results from the culture. Careful interdisciplinary monitoring activity (due to the potential renal impairment produced by the products resulting from rhabdomyolysis) and supportive treatment were performed.

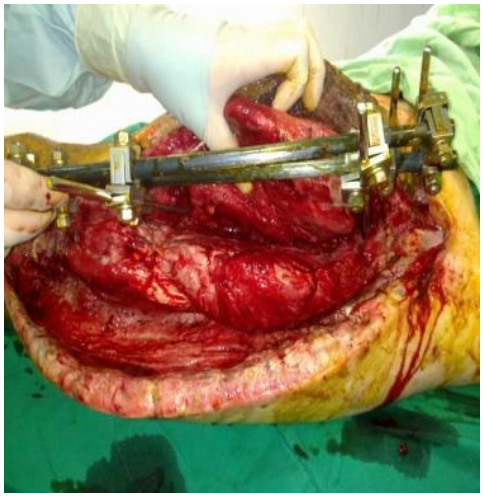

Fig. 4 - "Second look" – serial debridements, resulting in granulation tissue as a landmark of healing

RESULTS: As crushing has both local and systemic impact, the outcome must be evaluated from two points of view: from the general point of view, no systemic complications were registered; the renal and liver functions were not impaired, so we can conclude that the crushing syndrome did not appear as result of a thorough local treatment, combined with systemic supportive measures; considering the local outcome, the ExFix remained stable and after repeated lavages and necrectomies, granulation tissue invaded the injury site; the secretion diminished and then disappeared; skin graft was used in order to cover the defect.

Fig. 5- Clinical aspect after skin integration

When all signs of inflammation disappeared, the skin flaps were completely integrated, and the soft tissue injuries seemed to have healed, sequential method was considered to be suitable for the patient, external fixation being followed by intramedullary nail. No complications appeared after nailing and several years later, the nail was removed. Since no local complications appeared, it can be concluded that the local treatment was complete, providing healing conditions, despite the initial contamination.

Fig. 6 - Radiological aspect after intramedullary nail insertion

Fig. 7 - functional outcome 6 months follow up

CONCLUSION: Crushing trauma represent one of the most challenging type of modern traumatology, not only because they are increasingly frequent, but also because they associate complex injuries, affecting all the structures of a limb; although the bone injury is the most obvious one, the soft tissue damage is definitely the most important for the prognosis of the limb and of the patient, especially because necrotic muscles represent a very good environment for bacterial growth, thus considerably increasing the risk of early and severe infections. That is why infected fractures are frequent after complex high energy trauma; they require a prolonged and complicate treatment applied by a multidisciplinary team; the general measures- antibiotics and supportive treatment- are mandatory, but the most important is the local treatment which must create a clean environment. Complete debridement, always requiring several surgical interventions and optimal stabilization of the fracture are crucial not only for limb preservation, but also for patient's survival.