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Brown tumor of the orbit in a chronic hemodialysis

Charifa El alaoui Handira ,sara anibar ,soukaina sellami,WafaaFadili,InassLaouad.
Service de néphrologie-hémodialyse et transplantation rénale;CHU Mohamed VI.Marrakech.Maroc.

ABSTRACT

Brown tumors are among the severe complications of hyperparathyroidism. Their diagnosis is based on radiological and mostly histological clinical arguments, presenting the case of a young chronic hemodialysis patient who presents a brown tumor of the orbit with hyperparathyroidism not responding to Medical treatment requiring parathyroidectomy to control the tumor.

Keywords : Brown-orbit-hyperparathyroid tumor.

INTRODUCTION

Secondary hyperparathyroidism is a common complication in chronic renal failure. It is characterized by excess synthesis and secretion of parathyroid hormone, parathyroid gland hyperplasia, and phosphocalcic metabolism abnormalities with bone resonance [1,2]. Brown tumors are classical manifestations of hyperparathyroidism. They usually occur in severe forms. They are benign osteolytic lesions with giant cells linked to the action of parathormone on the bone tissue. These lesions are rare and occur in 1.5 to 1.7% of cases of secondary hyperparathyroidism [3, 4]. The most frequent localizations are ribs, clavicles, pelvic girdle and mandible. The reach of the orbit is exceptional [5]. Different bone imaging techniques are needed to ensure the diagnosis and follow-up of these bone tumors and should be combined with those for the etiologic diagnosis of hyperparathyroidism. We report the case of an unusual brown tumor of the orbit following secondary hyperparathyroidism in a chronic hemodialysis patient.

MATERIALS AND METHOD

Observation :

It is Mr H.B 38 years old in periodic hemodialysis for 6 years following an undefined nephropathy at the rate of two sessions per week of 4 hours, the patient consulted for an exophthalmia rapidly increasing in volume. He reported that the lesion appeared 1 month before. The clinical examination of the face demonstrated a painless, non-beating left exophthalmos. The rest of the examination was without anomalies. An orbital computed tomography (CT) was performed which demonstrated a tumor process of the roof of the left orbit blowing and lysing the bone with endorbital extension and grade II exophthalmos (Figure 1). Since radiological images were insufficient to provide accurate diagnosis, a biopsy of intraoral and bone fat was performed showing bone localization of a giant cell brown tumor. A biological check-up was performed and showed hyperparathyroidism at 4042

pg / ml, alkaline phosphatase at 2996 IU / l, hypercalcemia at 110 mg / l, phosphoria at 42 mg / l, and normoglycemic 7g / dl. The remainder of the biological balance was without anomalies. Cervical ultrasound demonstrated retrothyroid nodules suggesting a bilateral parathyroid adenoma. Therefore, the diagnosis of secondary hyperparathyroidism complicated by a brown tumor of the orbit was retained. A surgical treatment based on a subtotal parathyroidectomy of 7/8 was indicated in this patient to curb the osteolytic process. The patient's file will also be discussed in a multidisciplinary staff for discussion of a possible surgery, chemo or radiotherapy given the compressive and extensive character of the tumor [12]

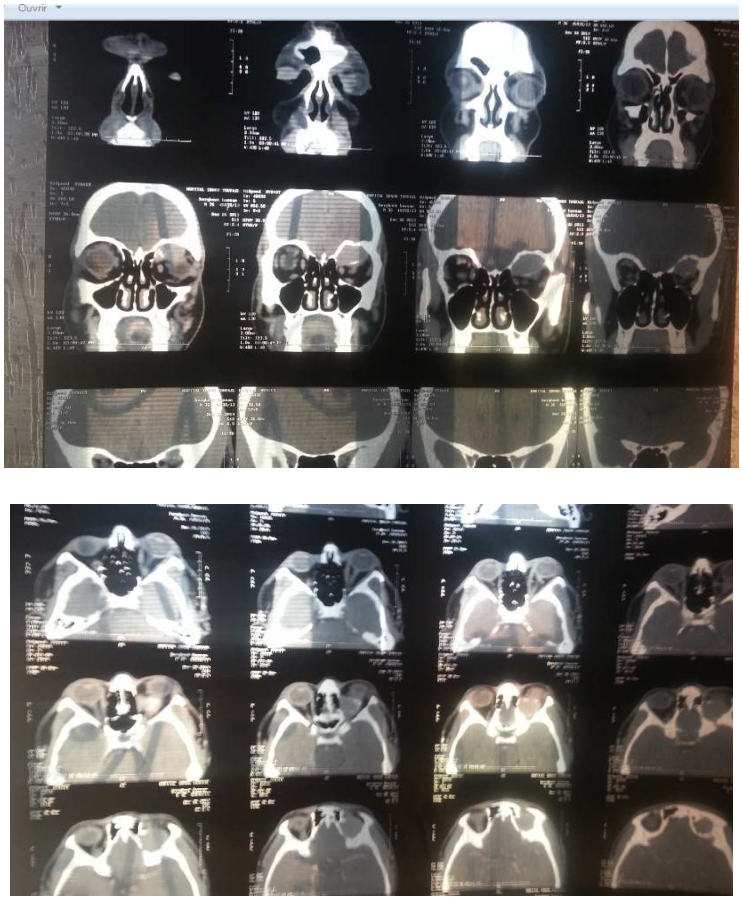

Figure 1: CT of the orbit showing the brown tumor

RESULT AND DISCUSSION

Brown tumors are osteolytic lesions rarely revealing of hyperparathyroidism. They usually occur in the terminal stage of primary or secondary hyperparathyroidism [13]. During the last 3 decades, the diagnosis of hyperparathyroidism is most often made in the asymptomatic phase thanks to the systematic calcium assays and the advent of new techniques, the determination of parathyroid hormone. [6] This results in localized bone microfractures and Haemorrhages that locally induce the influx of multinucleated macrophages (osteoclasts) and the appearance of a medullary fibrosis reaction (fibroblast stroma), thus forming a tumor mass. The lesions, often multifocal, are most often found in the mandibles, the ribs, the clavicles, the pelvis, the skull and the facial mass [7]. Clinically, they are often asymptomatic or the opposite are revealed by a sensation of gene, pains or even bone fractures. They can also lead to a noisy clinical picture. The nature of the mode of revealing the brown tumor of our patient leaves puzzling and draws well to draw two major lessons:

first, however infrequent they may be, the brown tumors can have such a serious functional and Vital that they should not be misunderstood; Second, we must never neglect or underestimate the slightest symptom in chronic hemodialysis, however innocuous it may seem.

Radiologically, brown tumors are in the form of lytic images of variable size, single or multiple, often off-center and blowing the cortical [9]. Periosteal reaction and invasion of soft tissues are almost absent, characteristic of the diagnosis [8]. The scanner remains the exam of choice with a possible enhancement after injection of contrast agent, which is not a problem in chronic hemodialysis. MRI is useful in vertebral sites. Multiple extra-facial bone lesions can be investigated by technetium bone scintigraphy. In the case of our patient, the diagnosis of brown tumor was made by the orbital scanner and supplemented by histology.

Histologically, brown tumors do not have a specific appearance, so that only the coexistence of multiple osteolytic lesions and hyperparathyroidism leads to the conclusion of their diagnosis [10]. Immunohistochemistry and the various colorations have no place in it.

CONCLUSION

This experiment led us to conclude that brown tumors can present themselves in a complicated form at the outset and the gravity of the tables that they can lead justify not ignoring them despite their low prevalence [11].

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