Giant cell tumor of the frontal bone – case report

The patient was in the 5th stage of chronic kidney disease (patient haemodialysed for 4 years), hypertension, heart failure (NYHA 3) and diabetes. The patient also reported tobacco and alcohol abuse.

In otolaryngological examination, there was present a solid pathological mass on the forehead (Fig. 1.) that was not painful on palpation. The patient was referred for imaging examination.

A two-phase CT was performed revealing a pathological mass of the following size: 47x39x57 mm (Fig. 2.). It presented endo- and exophytic growth with osteolysis of the frontal bone. The tumor penetrated the middle fossa, compressing the frontal lobes (Fig. 3.). The inferior part of the lesion was also present in the ethmoids.

The mass showed contrast enhancement, and amorphous calcifications were present. Neck lymph nodes were not enlarged.

For further evaluation, fine-needle aspiratory biopsy was performed. In the histopathological examination polynuclear giant cells were noted. There were also spindle-like cells presenting morphology of the nucleus similar to giant cells. The material was described as giant cell tumor (Fig. 4.).

The patient was qualified for resection of the lesion under general anesthesia. Due to a bad overall condition of the patient (high...
That form of neoplasm is mainly observed in patients between the third and fourth decade of life [3]. It slightly more often presents in women [7]. The most common chromosomal aberration that is noticed in this disease entity is telomeric association (TAS) [8]. Also, GCT might be observed with the rearrangement in 16q22 or 17p13 [9]. An increased risk of neoplastic disease occurrence may coincide with patients’ immunosuppression due to the chronic kidney disease.

The clinical manifestation except for swelling depends on the site of the lesion and adjacent anatomical structures [4]. In the case presented, only a pathological mass was present in the forehead, and no other symptoms were observed.

DISCUSSION

Giant cell tumor is a non-malignant lesion that may undergo malignant transformation in 5%–10% of cases [3]. It mostly occurs in the epiphysis of long bones, with head and neck being an exceptional site for occurrence. Nearly all cases in the head and neck involve three bones: ethmoid, sphenoid and temporal. The site of frontal bone is unusual, with only four reports present in the literature.

blood pressure and uncontrolled diabetes), she was disqualified until the improvement of her overall condition. Due to the multi-organ failure, the patient died three months after diagnosis.

Fig. 1. The enlargement present in the forehead of the patient.

Fig. 2. CT scan. The structures affected by the mass are seen. The osteolysis of the frontal bone is visible.

Fig. 3. CT scan. The compression of frontal lobes is present as well as amorphous calcification in the pathological mass.

Fig. 4. Preparation with BAC, H + E staining, area 10 ×.
The treatment of choice is surgical excision if the site allows it. Adjuvant methods of treatment are discussed [7].

The recurrence rate and prognosis correlate with the extent of resection [10]. The rate of local recurrence is 40–60% [11].

CONCLUSION

Nephrology patients that present chronic kidney disease should be thoroughly examined due to the immunosuppression-induced higher occurrence of neoplastic diseases.

References