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Case Report

HYPEROSTOSIS FRONTALIS INTERNA -A RARE BENIGN INCIDENTAL FINDING

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ABSTRACT
Hyperostosis frontalis interna is a common, benign thickening of inner table of skull involving frontal bone. It is found predominantly in asymptomatic postmenopausal women. Most of the times it is an incidental finding on X ray and computed tomography. The importance of this condition is not mistaking it for pathology. Here, we report a case of a 60 year old post-menopausal woman with irregular thickening of the internal surface of the frontal bone and present the radiological findings.

Keywords: *Hyperostosis Frontalis, Skull X-ray, Post-Menopausal Woman, Incidental Finding*

INTRODUCTION
Hyperostosis frontalis interna (HFI) is characterised by idiopathic benign thickening of the inner calvarium of the frontal bone commonly seen in elderly females and is usually asymptomatic (She and Szakacs, 2004). It is an incidental finding of no relevant clinical significance. It is symmetrical mostly and bilateral, and may involve the parietal bones. The calvarial thickening may be polypoidal or fusiform, and may involve the bone focally or diffusely. A skull radiograph followed by a head computed tomography scan is the diagnostic modality of choice. HFI should be distinguished from other disorders that involve the frontal skull bone, such as Osteitis deformans, Sotos syndrome and neoplasm.

CASES
A 60-year-old postmenopausal women presented with three month recurrent history of Intractable headaches, especially localized in the left frontal region, aggravating while walking. The pain used to subside at rest.
On examination, higher mental functions, vision and motor functions of upper and lower limbs appear normal. No evidence of sensory deficit.
Skull radiograph Antero-posterior and Lateral view was taken as preliminary investigation.
Frontal skull radiograph (a) shows sclerosis in a patchy almost nodular appearance which characteristically does not cross the midline and Lateral skull radiograph (b) shows thickening of calvarium anteriorly involving the frontal bone.
Computed tomography was taken. Axial CT brain bone window shows bilateral hyperostosis of the frontal bone.

DISCUSSION
HFI has been reported in 5-12% of the general population (Jaffe, 1972), but is far more common in women than men (Gershon-Cohen *et al.,* 1955). Jaffe *et al.,* (1972) study also shows there is an association between HFI and elderly post-menopausal women; the incidence in this population has been reported to be 40 to >60%. The etiopathogenesis of the trait is a matter of debate and ranges from genetic predisposition to epigenetic, while endocrine disturbances, aging, and dietary factors are also listed among the causes (Raikos *et al.,* 2011).
Dann *et al.,* (1951) shows HFI has been associated with many conditions, including frontal headaches, psychoneurosis, obesity, pregnancy, acromegaly, virulism, hypertrichosis and diabetes. These associations were mostly based on case reports. Several studies found no significant differences in the association of these factors with HFI vs control groups (Schneeberg *et al.,* 1947). HFI is now viewed as

an independent entity, rather than part of a syndrome, since the only clear association is with elderly post-menopausal women.

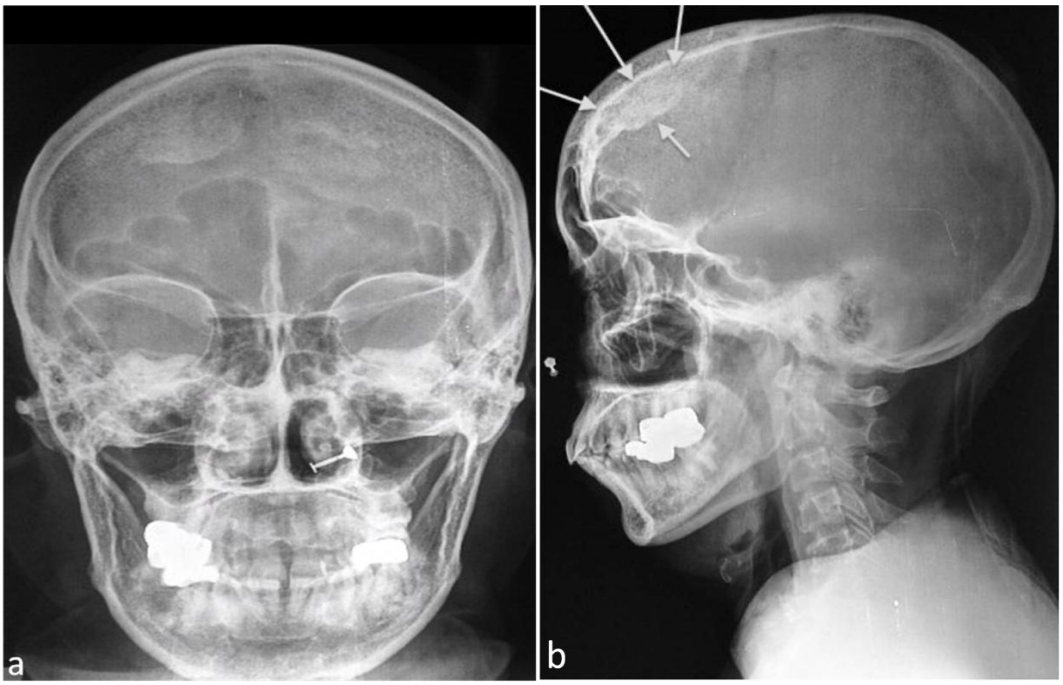

Figure 1: Frontal Skull Radiograph (a) Shows Sclerosis in a Patchy almost Nodular Appearance which Characteristically does not Cross the Midline and Lateral Skull Radiograph (b) Shows Thickening of Calvarium Anteriorly Involving the Frontal Bone Well Appreciated by Arrows

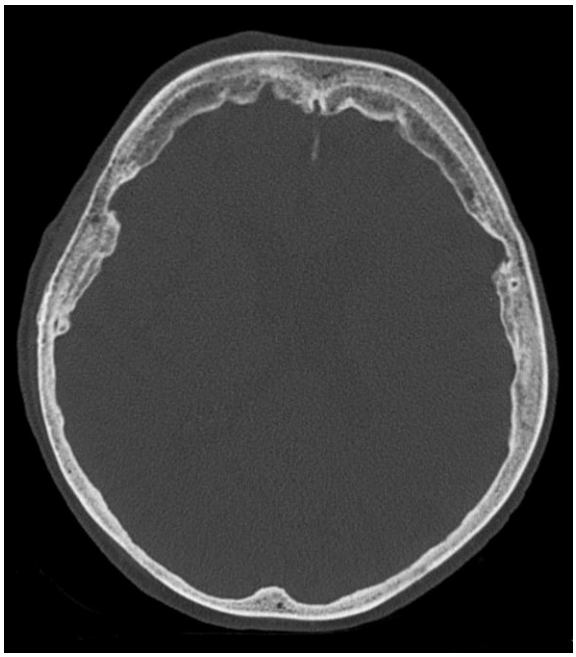

Figure 2: CT Brain Bone Window Axial Section Shows Bilateral Hyperostosis of the Frontal Bone

In our study also, irregular thickening of the internal surface of the frontal bone suggesting HFI seen in a postmenopausal women with history of only headache and without associated symptoms.

By itself, HFI does not generally cause significant clinical disease. HFI should be recognized as a benign entity and distinguished from other disorders that involve the frontal skull bone, such as Paget's disease, acromegaly, and malignancy.

Conclusion

Hyperostosis frontalis interna (HFI) is a common entity presenting in older post-menopausal women. It is a rare and benign clinical phenomena whose etiology is unclear and unrelated to other pathologies of bone. But it tends to involve the skull bone growth influenced by the hormones. The essentiality of this condition derives mainly from the need to not mistake it for a pathology.

REFERENCES

Dann S (1951). Metabolic craniopathy: a review of the literature with report of a case with diabetes mellitus. *Annals of Internal Medicine* **34** 163-202.

Gershon-Cohen J, Schraer H and Blumberg N (1955). Hyperostosis frontalis interna among the aged. *American Journal of Roentgenology* **73** 396-397.

Jaffe HL (1972). *Metabolic, Degenerative and Inflammatory Disease of Bones and Joints*, (Henry Kimptom, London, UK) 272-277.

Raikos A, Paraskevas GK, Yusuf F, Kordali P, Meditskou S, Al-Haj A and Brand-Saberi B (2011). Etiopathogenesis of hyperostosis frontalis interna: a mystery still. *Annals of Anatomy* **193**(5) 453-8.

Schneeberg NG, Woolhandler G and Levine R (1947). The clinical significance of hyperostosis frontalis interna. *The Journal of Clinical Endocrinology* **7** 624-635.

She R and Szakacs J (2004). Hyperostosis frontalis interna: case report and review of literature. *Annals of Clinical & Laboratory Science* **34**(2) 206–8. PMID 15228235