

## 2015

Petrone et al describe the findings of a unique example of the early techniques adopted in neurosurgery around 5000 years ago, consisting in a double well healed skull trephination associated with a post-cranial traumatic event occurring intra vitam to a young male from the Early Chalcolithic cemetery of Pontecagnano (South Italy, ca. 4,900 - 4,500 cal BP). Morphological, X-ray and 3D-CT scan skull-cap evaluation revealed that the main orifice was produced by scraping, obtained by clockwise rotary motion of a right-handed surgeon facing the patient, while the partial trephination was carried out by using a stone point as a drilling tool. In both cases, bone regrowth is indicative of the individual's prolonged postoperative survival and his near-complete recovery. The right femur shows a poorly healed mid-shaft fracture presumably induced by a high energy injury, and a resulting chronic osteomyelitis, affecting both femurs by hematogenous spread of the infection. Our observations on the visual and radiological features of skull and femur lesions, along with evidence on the timing of experimental bone regrowth vs. healing of lower limb fractures associated to long-term bone infections now suggest that this young man underwent a double skull trephination in order to alleviate his extremely painful condition induced by chronic osteomyelitis, which is thought to have been the cause of death <sup>1)</sup>.

## 2014

A case of left parietal calvarial actinomycotic osteomyelitis in a young woman is described. She had no predisposing illnesses. She had delivered a live child at term and presented in the puerperal period. No extracranial focus of infection was identified. She responded well to a combination of surgery and medical therapy and had an excellent outcome. The authors emphasise the importance of establishing a histopathological diagnosis since radiological signs are non-specific and unreliable <sup>2)</sup>.

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A 34-year-old immunocompetent man weighing 95 kg was operated for a small left parietal scalp swelling in the year 2002. He was well until 2008, when he developed chronic diffuse headache, vomiting and drowsiness. The left parietal dura and overlying vault biopsy showed evidence of granulomatous pachymeningitis with osteomyelitis secondary to nocardiosis. He had responded well to inadequate antibiotic therapy. After a dormant period of 3 years, there was recrudescence of severe raised intracranial tension symptoms in 2011. Magnetic resonance imaging showed diffuse pachymeningeal thickening mainly involving the occipital dura, posterior falx, and tentorium cerebelli. In addition, well-defined small nodules with hypointense signals on both T1- and T2-weighted images were seen in occipital lobes. Patient was treated with three drug regime with good recovery at 3 months follow-up. This is a rare case of central nervous system nocardiosis with skull vault osteomyelitis and a protracted clinical course <sup>3)</sup>.

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Singh et al report a case of primary tuberculous osteomyelitis of frontal bone in a 15-year-old female. With prompt as well as careful diagnostic workup and treatment, the author was able to halt the disease progression and excellent response to treatment was observed in follow up <sup>4)</sup>.

## 1997

A previously healthy 9-year-old boy, with a history of frontal contusion without injury, who developed *E. corrodens* osteomyelitis of the skull. The radiographic findings are reviewed, including skull films and computed tomographic scans. The patient underwent surgical debridement of the lesion, as well as systemic medical therapy with amoxicillin.

Good resolution after debridement and antibiotic therapy is reported <sup>5)</sup>.

## 1986

Infected cephalohematomas are extremely rare. In this report an infant of 14 weeks developed an infected cephalohematoma, [osteomyelitis](#) of the parietal bone and an epidural abscess after fetal monitoring with scalp electrodes. *Streptococcus pneumoniae* was isolated from the purulent aspirate <sup>6)</sup>.

<sup>1)</sup>

Petrone P, Niola M, Di Lorenzo P, Paternoster M, Graziano V, Quaremba G, Buccelli C. Early medical skull surgery for treatment of post-traumatic osteomyelitis 5,000 years ago. *PLoS One*. 2015 May 27;10(5):e0124790. doi: 10.1371/journal.pone.0124790. eCollection 2015. PubMed PMID: 26018014; PubMed Central PMCID: PMC4445912.

<sup>2)</sup>

Roopesh Kumar VR, Madhugiri VS, Gundamaneni SK, Verma SK. Actinomycotic osteomyelitis of the cranial vault presenting with headache: an unusual presentation. *BMJ Case Rep*. 2014 Nov 24;2014. pii: bcr2013202501. doi: 10.1136/bcr-2013-202501. PubMed PMID: 25422325.

<sup>3)</sup>

Nalini A, Saini J, Mahadevan A. Central nervous system nocardiosis with granulomatous pachymeningitis and osteomyelitis of skull vault. *Indian J Pathol Microbiol*. 2014 Apr-Jun;57(2):332-4. doi: 10.4103/0377-4929.134735. PubMed PMID: 24943782.

<sup>4)</sup>

Singh G, Kumar S, Singh DP, Verma V, Mohammad A. A rare case of primary tuberculous osteomyelitis of skull vault. *Indian J Tuberc*. 2014 Jan;61(1):79-83. PubMed PMID: 24640350.

<sup>5)</sup>

Arana E, Vallcanera A, Santamaría JA, Sanguesa C, Cortina H. *Eikenella corrodens* skull infection: a case report with review of the literature. *Surg Neurol*. 1997 Apr;47(4):389-91. Review. PubMed PMID: 9122844.

<sup>6)</sup>

Listinsky JL, Wood BP, Ekholm SE. Parietal osteomyelitis and epidural abscess: a delayed complication of fetal monitoring. *Pediatr Radiol*. 1986;16(2):150-1. PubMed PMID: 3951899.

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