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Pseudomeningocele with orbital extension as a complication of fronto-orbital advancement and remodelling in craniosynostosis: a retrospective review

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Introduction: We present a series of patients who developed a pseudomeningocele following fronto-orbital advancement and remodelling (FOAR), describing clinical presentation, investigation and management. Risk factors are identified and preventative strategies suggested.

Methods: All patients who developed a pseudomeningocele post-FOAR from 2002-2012 at our centre were identified and studied.

Results: 236 FOAR operations were carried out over 12 consecutive years. 61 of these patients were syndromic. Pseudomeningocele occurred in 6 patients all of whom were syndromic. Of affected patients - 4 had raised intracranial pressure (ICP) pre-operatively, 4 had a recognised dural tear at FOAR and 4 had an infection post-surgery. Clinically they presented with orbital swelling, ptosis and proptosis. Details of management will be presented. Decompression of the pseudomeningocele with excision and duraplsty was carried out in all 6 patients. 4 patients had a calvarial graft cranioplasty and a further 2 had a titanium mesh. 1 patient developed epilepsy. No other ocular, aesthetic or recurrence related complication was noted.

Conclusion: Pseudomeningocele has not previously been described in FOAR as a large series of consecutive patients. We have identified a 2.5% overall incidence which increases to 10% in the syndromic population. The risk factors include syndromic craniosynostosis, dural tear, hydrocephalus or raised ICP, infection, persistent CSF leak or presence of dead space. Preventative strategies include CSF management prior to or post-FOAR. Diagnosis and treatment of a pseudomeningocele should be prompt to prevent long term complications.

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