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Case Report (Open Access)

INFECTED POROUS POLYETHYLENE (MEDPOR) IMPLANT AFTER EVISCERATION

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ABSTRACT
Porous polyethylene (PP) implants are currently used as an alternative to hydroxyapatite (HA) implants after enucleation, evisceration and for secondary implantation surgery.

Complications reported with HA and other porous orbital implants include discharge, implant exposure, conjunctival thinning, pyogenic granuloma formation, implant infection and persistent pain or discomfort. Although implant exposure is the most common problem, implant infection is the most serious because removal of the implant is often required.

We report one patient with discharge, and orbital discomfort associated with exposure of an infected porous polyethylene implant after evisceration.

Keywords*: Evisceration, Granuloma, Orbital Implants*

INTRODUCTION

Porous implants made from a variety of other materials have been described over the last 15 years, whilst porous hydroxyapatite implants into Anophthalmic orbits have been practiced since 1985 (Dutton *et al.,* 1991).

CASES

A 61 year old man with a painful blind right eye secondary to congenital glaucoma had an evisceration with large relaxing sclerotomies posteriorly, and implantation of an 18mm porous polyethylene spherical implant in 2006. Socket healed well with good movement of the implant. He had an excellent prosthetic result with his final prosthesis fitted 6 months following evisceration. Patient complained of watery discharge along with one episode of bleeding from the right socket after two years. On examination, there was a very small patch of exposure of his underlying implant most probably due to pressure atrophy from his overlying artificial eye. When seen three months later his right socket continued to bleed and the conjunctiva had broken down over his implant. A buccal mucosal graft over the implant was planned. However, on account of the large defect, and suspected infection the implant was explanted in 2009. The implant was sent for histopathology.

Histopathological examination

(1). Implant had a central zone filled with pus whilst the outer implant wall was surrounded by dense fibrous tissue containing scattered blood vessels which were also seen ramifying into the implant material (Figure 1).

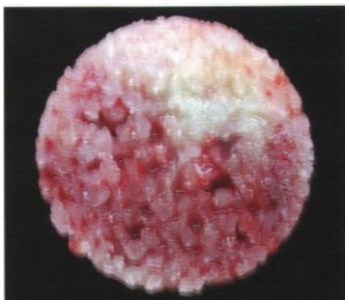

Figure 1

(2) The fibro vascular tissue was most prominent at the periphery of the implant and towards the central region filled with pus (Figure 2).

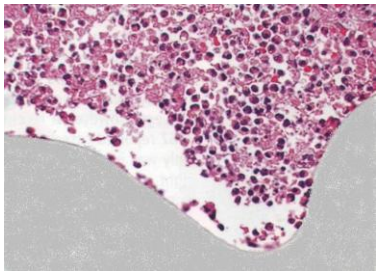

Figure 2

(3) The spaces within the implant material were lined by foreign body giant cells (Figure 3)**.**

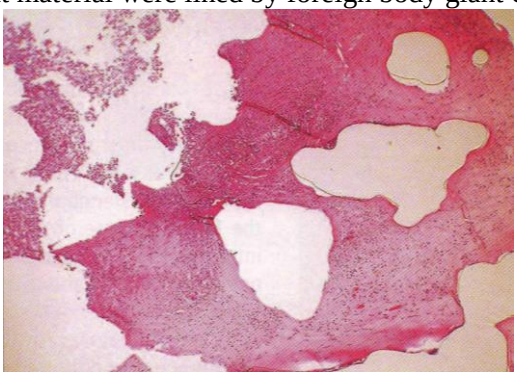

Figure 3

(4) Gram stain showed the presence of the large numbers of gram positive cocci which on culture were shown to be streptococcus pneumonia and staphylococcus aureus. (Figure 4).

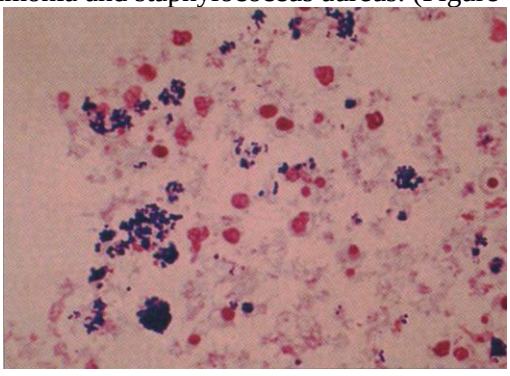

Figure 4

DISCUSSION

Polyethylene is high density, straight chain hydrocarbon formed by the polymerisation of ethylene molecules under high temperature and pressure (Jordon, 2001). The porous matrix of PP has proved to be an excellent scaffold for ingrowth of host fibro vascular tissue, and is free from any observable systemic or cytotoxic effects (Blaydon *et al.*, 2003). Compared with hydroxyapatite, the surface of PP implant is much smoother and causes less drag during placement in the soft tissue of the orbit (Shields *et al.*, 1992).

This patient represents a rare case of infection/abscess within a Medpor (PP) orbital implant following a seemingly uncomplicated evisceration.

The clinical course of porous orbital implant infection may be prolonged, as the early symptom of recurrent discharge is a common problem for implant recipients and may delay diagnosis. Thus the initial symptoms and signs are not always indicative of implant infection. It is often only with time, a persistence of symptoms and signs, and development of other additional symptoms and signs that implant infection is suspected. Implant infection should therefore be suspected when there is persistent conjunctival inflammation and discharge (after implant placement) despite antibiotic therapy Treatment with antibiotic drops and oral/intravenous antibiotics is often unsuccessful, resulting in implant explantation. Implant removal is unfortunate because the surgery is traumatic and destructive to the socket tissues. Furthermore, the potential for improved implant and prosthesis motility is lost (Jordon *et al.*, 2004).

Reports of infected HA implants are rare with only 12 cases (either culture-positive or culture-negative but microorganisms identified in the implant) documented. In addition, there are four presumed infections mentioned which resolved with intravenous antibiotics. Eleven of the 12 patients required implant removal to resolve the infection. Histopathologic examination of these explanted HA implants was not routinely performed but three demonstrated micro-organisms at Histopathology (Jordon *et al.*, 2004)

REFERENCES

Blaydon SM, Shelper TR, Neuhas RW, White WL and Shore JW (2003). The Porous Plyethylene (Medpor) Spherical Orbital implant : A Retrospective study of 136 cases. *Ophthalmic Plastic Surgery*, **19** 364-71.

Dutton JJ (1991). Coralline hydroxyapatite as an ocular implant. *Ophthalmology*, **98** 370-7.

Jordan DR and Bawazeer A (2001). Experience with 120 synthetic hydroxyapative implants (FC13). *Ophthalmic Plastic Reconstruction Surgery*, **17** 184-90.

Jordan DR, Brownstein S and Faraji H (2004). Clinicopathologic analysis of 15 explanted hydroxyapative implants. *Ophthalmic Plastic Surgery*, **20** 285-90.

Shields CL, Shields JA and De Potter P (1992). Hydroxyapative orbital implant after enucleation: experience with initial 100 consecutive cases. *Archives in Ophthalmology*, **110** 333-8.