Sir,

Lipogranuloma following traumatic dacryocystography in a 4-year-old boy

Lipogranulomas following the extravasation of oil-based contrast agents have been described in association with other radiographic studies including sialography, lymphography and hysterosalpingography. As this is only the second reported case in the English literature to occur following dacryocystography[1] there is little information on the appropriate management of this complication.

Case report

A 4-year-old boy had a left dacryocystogram performed under general anaesthesia for the investigation of epiphora. The epiphora had failed to respond to syringing and probing carried out 1 year previously. Conventional radiography and distention dacryocystography were performed employing the iodized oil-based contrast agent, Lipiodol. During the injection of the contrast agent a false passage was inadvertently formed with extravasation of dye from the lacrimal common canaliculus into the surrounding tissues. This was confirmed radiographically. Clinically the patient developed a significant area of swelling and erythema in the affected lower lid which was cosmetically disfiguring (Fig. 1).

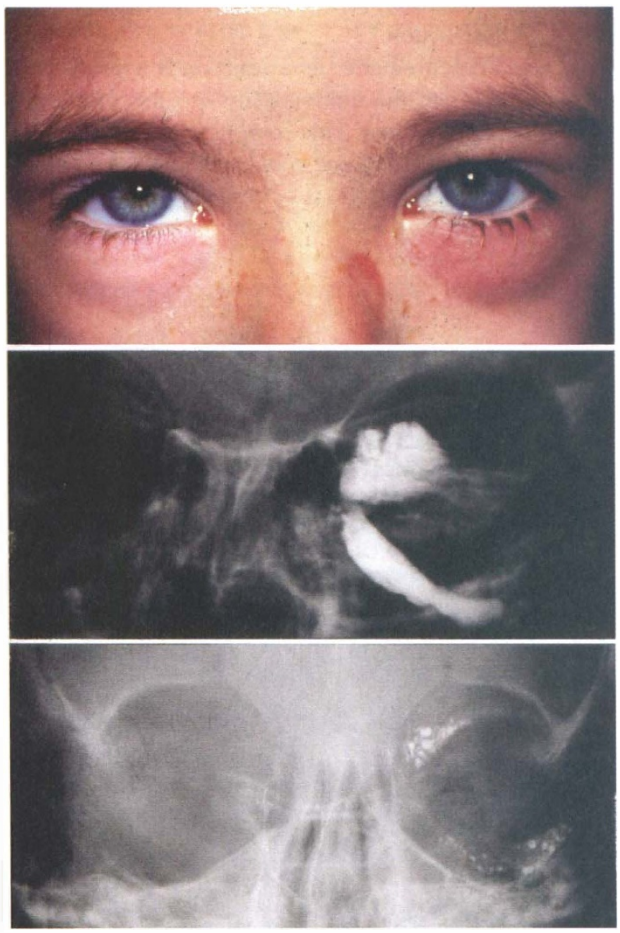

Fig. 1. *Top: Following extravasation of Lipiodol the patient developed a significant area of swelling and erythema in the left lower lid. Centre: Plain radiograph showing Lipiodol extravasated into the left lower lid and extending into the upper lid. Bottom: Plain radiograph 6 months later showing near-complete resorption of the iodized oil.*

Comment

Oil-based contrast agents, particularly Lipiodol, have been widely used in dacryocystography for many decades. Although in recent years water-soluble contrast agents have gained greater acceptance, studies have shown that Lipiodol provides the greatest conventional radiographic image quality when compared with water-soluble contrast agents.[2] This in large part appears to be a function of its greater iodine concentration compared with other agents. Lipiodol is also less expensive per unit volume than other agents, and the volume of contrast material required per dacryocystogram is lower.[2]

When extravasation of Lipiodol occurs it induces a foreign body reaction which may result in granuloma formation. Encapsulation of the lesion can occur and it may persist for many years. The complication of extravasation has been described in the skin and at other sites depending on the radiographic investigation being employed. Different authors have variously described lipogranulomas complicating sialography,[3] bronchography,[4] lymphography[5] and hysterosalpingography.[6]

In this 4-year-old patient the Lipiodol extravasation produced a prominent area of erythema and firm swelling within the lower lid. There was no associated pain or tenderness. Therapeutic options described by other authors treating lesions at other sites have varied from conservative treatment with observation to aspiration of the iodized oil from lesions which have become encapsulated. In this case, particularly in view of the young age of the patient, a conservative approach was adopted. Over a 6 month period there was gradual resolution of the lower lid swelling and no surgical intervention was required.

Although extravasation of Lipiodol during dacryocystography is a rare complication steps can be taken to minimise its occurrence. Some authors recommend irrigation of the canaliculus with saline prior to the injection of Lipiodol.[1] In this way any swelling would warn of extravasation before the use of any contrast medium. This may be prudent particularly in cases carried out under general anaesthesia where feedback regarding pain caused by trauma to the canaliculus and surrounding tissues is absent. It is also recommended that if the nasolacrimal apparatus has recently been probed, or cannulation has been traumatic, the use of oil-based agents be avoided.[2] All punctum dilators and lacrimal probes should be inspected before use and those with broken or sharp tips discarded.

In the rare situation where extravasation does occur we recommend waiting for a period of 6 months to allow for spontaneous resolution before embarking on any surgical intervention.

References

1. Mansfield DC, Zeki SM, Mackenzie JR. Case report: extravasation of Lipiodol. Clin Radiol 1994;49:217–8.
2. Munk P, Burhenne LW, Buffam FV, Nugent RA, Lin DT. Dacryocystography: comparison of water-soluble and oil-based contrast agents. Radiology 1989;173:827–30.
3. Shigetake Y, Masatsugu S, Yoshikuni F, Yoshihiro T. Parotid and pterygomaxillary lipogranuloma caused by oil-based contrast medium used for sialography: report of a case. J Oral Maxillofac Surg 1996;54:350–3.
4. Smith TR, Frater R, Spataro J. Delayed granuloma following bronchography. Chest 1973;64:122–5.
5. Dalforno S, Provana A. Granulomas due to oily substances in the lymph nodes. Cancro 1964;17:330–6.
6. La Sala GB, Ghiardini G, Valli F, Margini F. Intravasation during hysterosalpinography using low viscosity oil-based contrast media. Clin Exp Obstet Gynecol 1982;9:257–9.

Yvonne Delaney
Ramona Khooshabeh
Oxford Eye Hospital
Radcliffe Infirmary
Oxford OX2 6HE, UK

Yvonne Delaney ✉
Oxford Eye Hospital
Radcliffe Infirmary
Woodstock Road
Oxford OX2 6HE, UK

Tel: +44 (0)1865 723094
Fax: +44 (0)1865 204214
e-mail: y.delaney@virgin.net

Sir,

Spontaneous displacement of polyurethane nasolacrimal duct stent into the throat 4 years after insertion

Hollow stent insertion in the nasolacrimal duct (NLD) has been used as an alternative to dacryocystorhinostomy (DCR) for treatment of epiphora. Song and associates[1] first reported using a polyurethane stent in 1995. This is normally inserted in a retrograde fashion by radiologists. There are reports of a high success rate of insertion and patency of the stents.[2] To date there has been no report of these stents being displaced spontaneously. Here we report a case of polyurethane stent migration nearly 4 years after its original insertion.

Case report

A 66-year-old man presented to us nearly 4 years following the successful and uncomplicated insertion of a left polyurethane NLD stent. He had brought with him the stent wrapped in a tissue (Fig. 1)! He gave a history of foreign body sensation in his throat while asleep, followed by difficulty in breathing. He subsequently managed to remove the stent from his throat by coughing. He was well after this episode and had recovered fully.

Polyurethane stents are 35 mm long and quite flexible (Fig. 1). The tip is mushroom-shaped and measures 5 mm in diameter and 5 mm long. This part lies in the lacrimal sac. The hollow body of the stent has an external diameter of 2 mm and an inner diameter of 1.5 mm. The

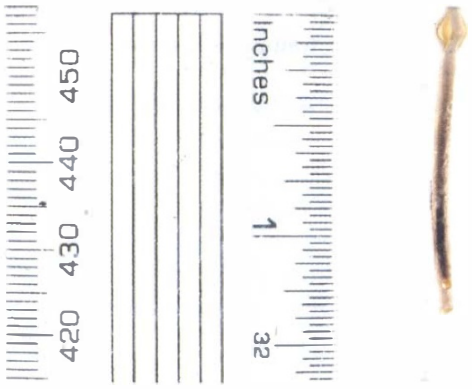

Fig. 1. *The polyurethane nasolacrimal duct stent.*

main indication for insertion of these stents is NLD obstruction, especially at the junction between the lacrimal sac and NLD or at the NLD. This procedure is also used as primary management of NLD obstruction before DCR. NLD stents are considered a safe and non-invasive alternative to DCR with a relatively good success rate of patency. In a recent study[2] a high 93% success rate of insertion and 88% success rate of patency was reported in a mean follow-up period of 7 months. Blockage of the stent has been reported as the most frequent cause for failure.[3,4] Song's group reviewed 571 cases of stent insertion, of which 142 were removed because of obstruction.[3]

Although polyurethane stent insertion is a fast, safe and reversible procedure, these stents are also prone to migration into the throat. This complication has not previously been reported and could potentially be a very serious hazard with regard to upper respiratory tract obstruction of patients who are predominantly elderly. It is therefore important to be aware of such an unusual complication and patients should be warned about it.

References

1. Song HY, Jin YH, Kim JH, Huh SJ, Kim YH, Kim TH, Sung KB. Nonsurgical placement of a nasolacrimal polyurethane stent. Radiology 1995;194:233–7.
2. Yazici B, Yazici Z, Parlak M. Treatment of nasolacrimal duct obstruction in adults with polyurethane stent. Am J Ophthalmol 2001;131:37–43.
3. Song HY, Lee DH, Ahn H, Kim JH, Kang SG, Yoon HK, Sung KB. Lacrimal system obstruction treated with lacrimal polyurethane stents: outcome of removal of occluded stents. Radiology 1998;208:689–94.
4. Pabon IP, Diaz LP, Grande C, de la Cal Lopez MA. Nasolacrimal polyurethane stent placement for epiphora: technical long-term results. J Vasc Interv Radiol 2001;12:67–71.

Seyed Ghazi-Nouri
Graham Thompson
Department of Ophthalmology
St George's Hospital
Blackshaw Road
London, UK

Mr Seyed Ghazi-Nouri ✉
Department of Ophthalmology
St George's Hospital
Blackshaw Road
London SW17 0QT, UK