Short reports

Ocular spherulocystosis

U Kini, M K Babu

Abstract

Spherulocystosis (mysospherulosis), a rare entity, is characterised by histopathological changes of sac-like refractile structures in soft tissue and presents clinically as an inflammatory lesion. It is caused by trauma or is induced iatrogenically by the topical application of fat based ointments. A case of mysospherulosis confined to the region of the lacrimal caruncle, which developed soon after topical antibiotic application for suspected conjunctivitis, in a 49 year old woman is reported. Though this lesion is uncommon, this report illustrates the importance of recognising this condition to avoid confusion with and treatment for fungal infection.

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Keywords: mysospherulosis, sperulocystosis, erythrocytes, lacrimal apparatus.

Case report

A 49 year old woman presented with a four day history of a painless swelling in the region of the medial canthus of the right eye. This swelling followed soon after an attack of suspected conjunctivitis, which was treated by a local doctor with topical application of chloromycetin eye ointment for one week.

On examination, the lesion was an oval, cystic, non-tender swelling measuring 4 × 6 mm in size. A clinical diagnosis of a parasitic cyst was made. On exploration under local anesthesia, the lesion, resembling a cysticercus, was located in the subconjunctival plane. It was excised totally and sent for histopathological examination.

Microscopy showed groups of mucous glands with a cystically dilated lesion lined by flattened cells and containing several round to oval structures measuring 70-100 µm in diameter (fig 1). These structures were made up of clusters of round refractile bodies of varying sizes, from 4 to 8 µm (fig 2), and surrounded by a thin refractile membrane. These refractile elements were negative for periodic acid Schiff and Gomori methenamine silver stains but showed strong immunostaining for haemoglobin. A histopathological diagnosis of spherulocystosis (mysospherulosis) was made.

Discussion

Myospherulosis is characterised by the presence of sac-like structures enclosing small

Figure 1 A portion of the dilated lesion (D) containing several round to oval structures (parent bodies) (P). Note mucous glands (G) along with the portion of the duct (arrow) at the periphery of the lesion (haematoxylin and eosin, ×25).

spherules in cysts or cystic spaces in tissues. It is a rare inflammatory condition which most often occurs iatrogenically following the administration of petrolatum based antibiotic ointments.¹ This entity was first described by McClatchie *et al*² in 1969 in seven African patients who presented with nodular, painful swellings of skeletal muscle. Histopathology of these swellings showed inflamed granulation tissue with numerous cystic spaces containing clusters of spherical bodies. Because of the intramuscular location of these lesions and the spherical bodies present within these cystic spaces, the term myospherulosis was chosen. In fact, this term is currently being replaced by spherulocystosis³ because the nodules do not always arise in muscular tissue. Since 1969, several cases have been reported in the literature, with most of them occurring in the paranasal sinuses, particularly after surgery, and postoperative petrolatum based packing, of the middle ear,⁴ jaws, soft tissue of the buttocks, breast, ovary, skin,⁵ brain,⁵ and in fatty sites undergoing fat necrosis and mesenchymal repair.⁶

Myospherulosis results from altered red cell morphology occurring most often after the cells are exposed to endogenously released lipids or exogenously introduced fats such as petrolatum or lanolin. However, in our case, spherulocystosis may have resulted from expo-

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Figure 2 Higher power image showing parent bodies enclosing several round refractile structures of varying sizes (endobodies) (haematoxylin and eosin, ×450).

sure of red blood cells, which had extravasated because of the congestion and vasodilation associated with conjunctivitis, to the fat released from the fat based antibiotic ointment applied topically. It is unlikely that the lesion in the present case resulted from tissue disruption induced by prior trauma or any associated malignancy.

The diagnosis of spherulocystosis can only be made after the histopathological examination of the resected tissue. At histology, the large sac-like structures (parent bodies), measuring 60–100 µm in diameter, contained several smaller spherules (endobodies), measuring 4–10 µm in diameter.⁷ The spherules are

light brown on staining with haematoxylin and eosin as they are made up of acid haematin, which is a degradation product of haemoglobin.¹ However, in smears, the spherules are best seen with the Papanicolaou stain⁶, with which they are stained varying shades of green and orange.

The spherules can be confused with fungi, algae of genus Prototheca, vegetable matter, and pollen grains.¹ The spherules are most easily confused with incoccidioidomycosis and rhinosporidiosis, and can be differentiated from the latter by careful light microscopy, by the lack of staining with periodic acid Schiff and Gomori methenamine silver stains and also by positive immunostaining for haemoglobin. Although spherulocystosis may be associated with inflammation, in the present case, however, this was minimal.

To the best of our knowledge, in the English literature, this is the first case of spherulocystosis (myspherulosis) confined to the eye and caused by topically applied antibiotic ointment.

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Granulocyte-colony stimulating factor concentrations in a patient with plasma cell dyscrasia and clinical features of chronic neutrophilic leukaemia

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Abstract
In order to study the pathogenesis of plasma cell dyscrasias with associated clinical features of chronic neutrophilic leukaemia, the concentration of granulocyte-colony stimulating factor (G-CSF) was measured in a patient, a 73 year old man, who underwent steroid pulse therapy. High G-CSF concentrations and leucocyte counts prior to treatment declined rapidly on administration of dexamethazone, but rose subsequently. G-CSF was not detected in primary

cultures of bone marrow cells, but large amounts of interleukin-6 were found in the culture supernatant. These observations suggest that the neutrophilia observed in the patient represented a reactive response to G-CSF secreted from abnormal plasma cells or stromal cells rather than the existence of a genuine myeloproliferative disorder. (*J Clin Pathol* 1996;**49**:858–860)

Keywords: chronic neutrophilic leukaemia, myeloma, G-CSF, steroid, regulation.

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