

CONJUNCTIVAL REGRESSING KAPOSİ SARCOMA*†

BY

ALY MORTADA

Department of Ophthalmology, Faculty of Medicine, Cairo University, Egypt

KAPOSİ multiple idiopathic haemorrhagic sarcoma is a peculiar condition which cannot be accurately classified (Reese, 1963). It was regarded by Kaposi (1872) as a cutaneous sarcoma affecting the blood vessels; by Ewing (1922) as an infectious granuloma; by Pautrier and Diss (1928) as originating from nerve tissue; and by Dörffel (1932) as arising from the reticulo-endothelial system, the lesion being an angio-reticulo-endothelioma (Choisser and Ramsey, 1940; Sutton, 1956). Allen (1954) quoted fifteen examples of concomitant association of Kaposi sarcoma and malignant lymphoma and believed this to be more than an accidental coincidence.

It is uncertain whether Kaposi sarcoma is a true neoplasm, but in some cases it certainly behaves like one (Cappell, 1958). The pathological nature of the lesion is also uncertain, although its general structure is sarcomatous (Duke-Elder, 1952). Soderman (1959) wrote:

“These lesions may develop along one of two lines. Less commonly there is a proliferation of the capillaries and diffuse permeation with plasma cells, lymphocytes, neutrophils, and eosinophils, giving the tumour a granulomatous appearance. More commonly the endothelial-lined spaces become less distinct and inter-sinusoidal tissue become replaced with elongated spindle cells that fuse with and resemble endothelial cells thus giving a true sarcomatous appearance”.

Although Soderman (1959) and other workers regarded the multiple lesions in lymph glands, lungs, liver, spleen, heart, and intestines as metastases, some considered the condition to be of multiple origin and non-metastatic.

Hogan and Zimmerman (1962) wrote that Kaposi sclerosing angio-sarcoma was sometimes called malignant granulation tissue.

It is therefore uncertain whether Kaposi sarcomata are inflammatory or neoplastic in origin, malignant tumours with metastases, or multiple benign tumours.

Cases of Kaposi sarcoma starting in the conjunctiva have been reported by Greeff (1901), Heine (1906), and Kerl (1914). Sachs (1956) described a case involving the conjunctiva in a 12-year-old African girl.

The following two cases are interesting because the disease so rarely starts in the conjunctiva and also because the lesions were regressive, and were accompanied by generalized lymph node enlargement, monocytosis, and lymphocytosis.

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† Address for reprints: 18A, 26 July St., Cairo, Egypt.

Case Reports

In neither case was there anything significant in the patient's personal or family history or any evidence of injury. Both patients were anaemic. The superficial and deep cervical and axillary lymph glands and the superficial inguinal lymph glands were moderately enlarged, soft but not tender or adherent to each other. The lungs, heart, liver, and salivary and lacrimal glands were normal. The spleen was enlarged two fingers' width below the costal margin; otherwise the abdomen was normal. X rays of the chest, skull, and other bones showed no abnormality. The skin was free from nodules and pigmentation. There were no septic foci in the teeth, tonsils, nasal sinuses, or elsewhere.

The temperature, blood pressure, pulse, blood coagulation, and bleeding times were normal. The urine contained no albumen or sugar, and the faeces and urine no parasitic ova. The blood film was negative for malaria. The blood Wassermann reaction and tuberculin tests were negative. Conjunctival smears were negative for organisms, and conjunctival scrapings stained with Giemsa stain were negative for inclusion bodies.

Case 1, a girl aged 3 years, presented with a rapidly developing mass protruding from under the right upper lid and covering the lower lid, of one month's duration (Fig. 1), which had appeared one week after an attack of diarrhoea and was diagnosed as an angioma of the lid.



FIG. 1.—Case 1, tumour of right upper conjunctival fornix protruding from beneath the upper lid to cover the lower lid.

Examination.—The mass originated from the right upper conjunctival fornix, measured 3 × 3 cm., was dark red and soft, and bled freely on palpation. The surrounding skin and mucous membrane was normal.

The blood differential count showed: red blood corpuscles 2,470,000; white blood corpuscles 13,400; basophils 1 per cent.; eosinophils 1 per cent.; polymorphs 50 per cent. (staff nucleated 5 per cent., segmented 45 per cent.); lymphocytes 37 per cent.; monocytes 10 per cent.; reticulum cells 1 per cent. Haemoglobin 45 mg./100 ml.

Biopsy.—The main part of the mass was excised leaving its basal infiltrations. The conjunctival wound was not sutured. One enlarged superficial cervical lymph gland and one superficial enlarged inguinal lymph gland were also removed. These glands were haemorrhagic and reddish-brown in colour. In a few days the remaining basal infiltrations disappeared and the conjunctival wound was completely healed.

Progress.—One week later eversion of the left upper lid revealed three dark-red protruding soft conjunctival masses (Fig. 2). One measured 0.6 cu. cm. in the centre of the palpebral conjunctiva near the lid margin, and the others, each measuring 2 × 1 cm., protruded from the medial and outer halves of the left upper conjunctival fornix respectively. On palpation the three masses bled easily into the conjunctival sac, and also subconjunctivally, which made them appear larger. At



FIG. 2.—Case 1, everted left upper lid showing one palpebral tumour and two tumours in the conjunctival fornix.

this time they were thought to be due to subconjunctival haemorrhage giving rise to multiple subconjunctival haematomata. The main parts of these three masses were excised leaving their infiltrating bases. No conjunctival sutures were inserted but the masses disappeared and the conjunctival wounds healed in 4 days.

One week later, however, a round, flat, reddish macular lesion 0.5 cm. in diameter appeared on the right upper palpebral conjunctiva near the lid margin (Fig. 3).

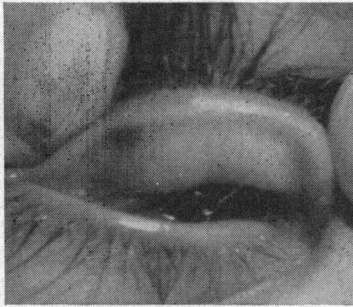


FIG. 3.—Case 1, right upper palpebral conjunctiva, showing an early macular lesion.

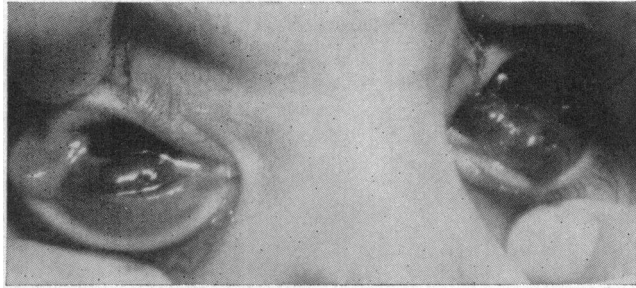


FIG. 4.—Case 1, tumours of the right and left lower conjunctival fornices.

In the right and left lower conjunctival fornices there were raised dark-brown masses (Fig. 4) which bled easily on palpation. The right mass was soft, measuring 1.5 × 1 cm., and the left mass was lobulated and firm, occupying all the left lower fornix. All these masses were removed leaving their infiltrating bases, and a week later the conjunctivae appeared to be normal.

Result.—The patient was in perfect health 3 months later with no abnormalities of skin or conjunctiva.

Case 2, a boy aged 5 years old, presented with a history of sanguinous tears and heaviness of the right upper lid of 2 months' duration.

Examination.—Both eyelids and fundi were normal, but the right upper palpebral conjunctiva showed three dark-red raised soft nodules, which bled easily on palpation (Fig. 5). A small nodule 3 mm. in diameter was seen near the middle of the lid margin, with larger lobulated nodules 5 mm. in diameter on each side of it, extending to the upper conjunctival fornix. There were also two small reddish macules 4 mm. across in the left upper palpebral conjunctiva. The conjunctivae were otherwise normal.



FIG. 5.—Case 2, three tumours in the right upper palpebral conjunctiva.

The differential blood count showed: red blood corpuscles 3,200,000; white blood corpuscles 10,000; basophils 1 per cent.; eosinophils 2 per cent.; polymorphs 56 per cent. (staff nucleated 6 per cent., segmented 50 per cent.); lymphocytes 31 per cent.; monocytes 9 per cent.; reticulum cells 1 per cent. Haemoglobin 50 mg./100 ml.

Biopsy.—The main part of the conjunctival nodules and macules were removed leaving their infiltrating bases. One superficial cervical and one superficial inguinal lymph gland were removed. After 5 days the remaining basal infiltrations had disappeared and the conjunctival wounds had healed.

Histopathology

All these conjunctival nodules and macules were very similar. The lesion had started in the conjunctival subepithelial corium by proliferation of endothelial-lined spaces surrounded by proliferation of spindle cells (Figs 6 and 7). Some of the vascular spaces were of capillary size, and others more cavernous (Fig. 8). Many haemorrhages were present. The proliferated spindle cells were elongated with oval nuclei. As the lesion matures haemosiderin granules appear from broken-down red cells. The spindle-cell proliferation becomes denser while the endothelial-lined spaces become less distinct. In time the spindle-cells become smaller and thinner as if in a sclerosing stage. The lesion is limited to the subconjunctival corium without invasion of the underlying tarsus or muscle.

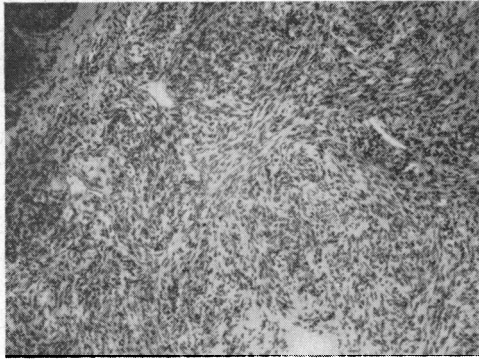


FIG. 6.—Case 2, scattered endothelial-lined spaces surrounded by densely proliferating spindle cells. Haematoxylin and eosin. $\times 100$.

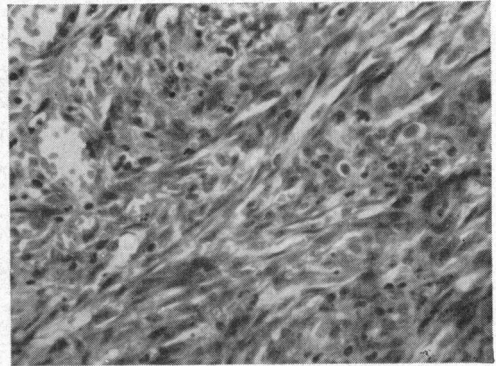


FIG. 7.—Case 1, endothelial cells and one or two endothelial-lined spaces surrounded by proliferation of spindle cells, as in Case 2. Haematoxylin and eosin. $\times 250$.

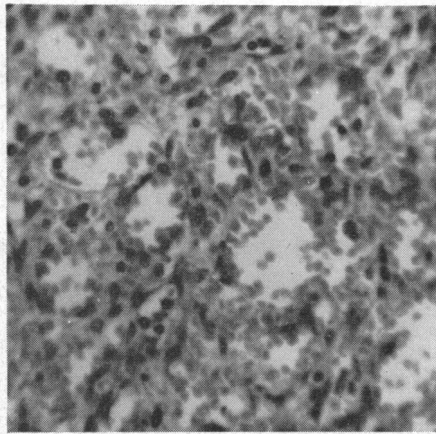


FIG. 8.—Case 1, another area of section shown in Fig. 7. Note numerous vascular spaces of capillary and cavernous size. Haematoxylin and eosin. $\times 334$.

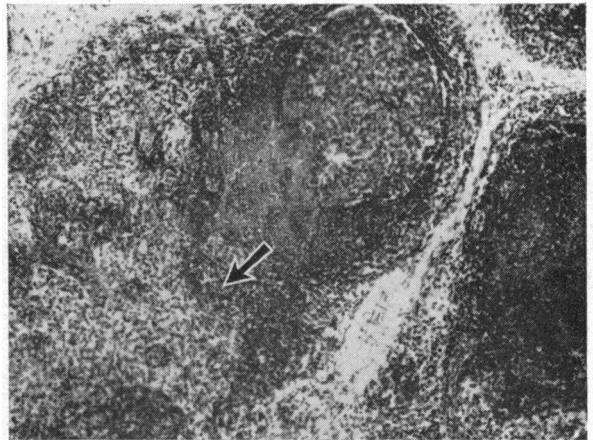


FIG. 9.—Case 1, lymph node, showing vaso-formative tissue within a lymph follicle (arrow). Haematoxylin and eosin. $\times 120$.

The cervical and inguinal lymph glands were also similar. Some lymph follicles were partially or totally replaced by a highly vascular spindle-celled tissue (Fig. 9). As the lesion gets older its vascular elements become less distinct and the spindle-cell proliferation becomes conspicuous, later leading to sclerosis.

In both cases the basal infiltrations left after excision of the conjunctival nodules regressed and disappeared, and the conjunctival wound healed in a few days. After 3 months the generalized lymph node and splenic enlargement had disappeared, showing that the condition had not been due to metastases or malignancy.

Discussion

Kaposi sarcoma usually affects patients in the fifth and seventh decade, is twenty times more common in men, especially labourers or outdoor workers.

Few cases have been seen in Egypt and only five in Great Britain (Cappell, 1958). Most cases have been reported from Russia, Poland, Northern Italy, central and south-eastern Asia, and in American Negroes. Davies (1959) reported seventy cases from Kampala and Uganda in the five years 1952–1957. A high incidence has also been reported from the Belgian Congo (Thijs, 1957) and South Africa (Higginson and Oettlé, 1957).

The two patients described above were both young children, and the lesions began in the conjunctiva with no other skin affection, whereas Kaposi sarcoma is usually characterized by multiple ill-defined purplish areas or nodules in the skin, especially on the extremities, and these nodules may persist, disappear, or ulcerate. New growths appear in different organs of the body, and in the intestine the disease may give rise to fatal haemorrhage, intestinal ulceration, perforation with peritonitis, or intussusception. The disease is usually progressive until almost every organ in the body is affected. Death may occur as early as 8 months and as late as 25 years after onset.

Few cases of Kaposi sarcoma have been reported in which the disease started on the face, nose, or ear. According to Lerman and Pinsky (1959):

“Probably less than seven Kaposi sarcoma cases have presented with the primary lesion situated in the orbital region”.

Graham (1942) reported an initial lesion on the right upper lid in a 56-year-old man. McLaren (1960) reported a case in a 2-year-old African boy who had Kaposi sarcoma in both upper lids accompanied by bilateral enlargement of the salivary, lacrimal, and cervical lymph glands, of 3 months' duration.

The nature of the spindle-cell lesion is unknown. Ingram and Brain (1957) wrote:

“It would appear that the primitive mesenchymal cells, stimulated by some inflammatory reaction run riot in a mixed angiomatous and fibroblastic manner of a variable proportion”.

Evidence from tissue culture indicates that the spindle cells are not fibroblasts (Cappell, 1958). It is now generally admitted that Kaposi sarcoma is a reticulo-endotheliosis with proliferation of endothelial and perithelial histiocytic cells (Marshall, 1960). The generalized type of the disease, with affection of lymph glands, regression or spontaneous cure, and occasional occurrence of leukaemia, and in my two cases, of lymphocytosis and monocytosis, favours the reticulo-endothelial theory of pathogenesis. In my two cases the spindle cells were not sarcomatous or malignant, but benign, being most probably proliferating reticulo-endothelial cells. The tumours were thus examples of “sclerosing angio-reticulo-endotheliomata” of multiple origin occurring in children.

Summary

(1) Although the name "Kaposi sarcoma" is usually understood to mean a type of sarcoma with metastasis, the two cases described in this paper proved to be benign.

(2) These are the first two cases to be reported from Egypt of Kaposi sarcoma of the sclerosing angio-reticulo-endothelioma regressive type beginning in the conjunctiva.

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