KAPOSI'S SARCOMA

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A case of idiopathic multiple hemorrhagic sarcoma of Kaposi showing two lesions only, one on the scalp and the other on the forehead, presents features which warrant its recording.

An Italian male of sixty-five years had two small, painless lumps on his scalp and forehead. They had been first noticed four months before, and the upper one had been operated on under a diagnosis of cyst. The wound had failed to heal and the lesions had continued to grow. Examination showed on the scalp, just above the hair line, an elevated, pinkish red nodule with smooth, tense surface, measuring 2 cm. in diameter; 2 cm. from it, just below the hair line, was a similar, slightly smaller nodule (Fig. 1). Both had depressed centers and were indurated but movable on the deep fascia. The patient's past history and the family history were without significance.

A clinical diagnosis of basal-cell carcinoma was made and the two nodules were widely excised by Dr. A. Zimany, together with an area of skin and scalp measuring $8 \times 3$ cm. A pedicle flap from the left side of the forehead was sewed in place and the remaining defect covered by a Thiersch skin graft.

Pathological examination showed two rounded tumors, similar in size and appearance and separated by 2 cm. of normal skin. The upper one was slightly ulcerated. On section

1 Read before the New York Pathological Society, April 22, 1937.
the growths were seen to be composed of firm pale tissue which extended down to the deep fascia at several points with a depth of about 7 mm. (Fig. 2). They spread out laterally beneath the normal skin.

Microscopic examination showed similar structure in both nodules. The epidermis was normal with flattening of the dermal papillae. Just beneath the epidermis and at the sides of the lesion was a growth of vascular channels and sinuses with proliferation of the endothelium and infiltration of the surrounding corium by large round and elongated cells and lymphoid cells (Figs. 3 and 4). Further towards the center of the nodules the proliferation of blood vessels was accompanied by a growth of large spindle and oval cells (Figs. 5–7) with hyperchromatism and anaplasia and numerous mitoses (Fig. 8). Scattered islands of growth lay deep in the excised tissue and reached to the line of excision at one edge. At one point the tumor cells invaded a large vein, nearly filling its lumen (Fig. 9).

The general picture corresponded to some type of malignant neoplasm and, since the findings ruled out basal-cell carcinoma and ordinary sarcoma, our first impression was that we were dealing with metastatic lesions, but careful examination of the patient showed only an inguinal hernia and barely palpable cervical nodes. Roentgen examination of the chest was negative as was a blood examination.

Sections were shown to Dr. James Ewing, Dr. Francis Carter Wood, Dr. L. C. Knox, and Dr. F. W. Stewart, each of whom was independently of the opinion that we were dealing with a sarcoma of the idiopathic hemorrhagic Kaposi type.

Histologically our findings appear to fit in with those described in the numerous reports in the literature. Clinically, the unusual location on the
**Fig. 3.** Edge of Nodule, Showing Vascular Sinuses with Moderate Perivascular Cellular Infiltration. × 187.5

**Fig. 4.** Perivascular Infiltration More Marked than That Seen in Fig. 3. × 187.5
scalp, without nodules or plaques elsewhere on the body or hemorrhagic changes in the skin, made the diagnosis difficult. Kaposi nodules have been described on the face. Wise reported a nodule on the nose, which resembled our tumors in appearance, but his patient had another nodule on the cheek and lesions on the thighs, forearms, and feet (1). MacKee and Cipollaro describe a nodule on the ear with discrete nodules on the feet and state that hardly any part of the body surface is exempt (2). We have seen no references to lesions on the scalp or to solitary nodules occurring without other manifestations, but our case is an early one and, while three months have now elapsed since removal of the tumors, it is too soon to say that a cure has been effected, especially as we are dealing with a disease which is regarded as in-

![Diffuse Area of Lesion Showing Small Vessels Lying between Spindle Cells with Lymphoid Cell Exudate.](image)

curable and which in its malignant forms may show involvement of internal organs. Whether such spread through the body is metastatic or due to simultaneous growths is still in dispute. MacKee refers to a case in which Wood made a diagnosis of Kaposi's sarcoma from an excised inguinal node (2).

As regards pathogenesis, our case does not appear to throw any new light on the controversial points. It shows the usual growth of blood vessels and channels with accompany cellular proliferation. There is a multiplicity of views regarding the origin of the infiltrating cells. Some believe that they are of endothelial origin, others that they are connective-tissue cells. Dorffel (3) regarded the disease as an affection of the reticulo-endothelial system, but Ewing in discussing MacKee's paper (2) stated that he had studied many

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2 See appended Note, p. 562.
Fig. 6. Fibrous stroma showing large vascular spaces or sinuses containing detached endothelial-like cells and lymphoid cells. × 300

Fig. 7. Center of nodule showing diffuse perivascular growth of large cells with anaplasia and hyperchromatism. × 300
Fig. 8. Neoplastic Area Showing Mitoses. × 500

Fig. 9. Invasion of Large Vein by Neoplastic Cells. × 150
cases of the disease and failed to see any real grounds for the assumption that it could arise from any structure which he, as a pathologist, could identify properly with the reticulo-endothelial system.

The disease has been described by Pautrier and Diss (4) as a dysgenesis of the vessels and their neuromuscular annexes on the one side and of their Schwannian elements on the other side. Hudelo (5) considered it analogous to von Recklinghausen's disease.

With these conflicting views, we are, for the present, left with a disease which we can recognize histologically, but concerning the pathogenesis of which we can reach no definite conclusions.

**Summary**

A report is made of two tumors of the scalp and forehead showing the histological features of Kaposi's sarcoma but without other manifestations of the disease.

**Note:** A second operation followed soon after the first and tissue was excised where the tumor reached the line of the earlier excision, but in spite of this there was a local recurrence in the adjacent scalp. As the patient refused further operation, he was given a course of radiation, which however failed to arrest the spread of the tumor. In October 1937, nine months after the first operation, the growth had spread down to the eyebrow and covered the temple on one side with extension backward into the scalp, forming a tumor area 15 cm. in diameter. Ulceration had occurred and there was continuous bleeding, necessitating daily changing of the dressings. The disease so far remains localized.

**References**