TABLE V.—*Distribution of Characteristics in Duruma*

Set	Sicklers	With Enlarged Spleen
1	2	2
2	9	2
3	4	8
4	5	15
5	3	6
6	1	11
7	—	12
8	3	14
9	2	14
10	2	20

mixed group of other tribes. In view of what has been said above, it would not seem that it has yet to be established that this has much meaning.

In conclusion, it would appear from the results given above that there is no confirmation of the theory that there is an association of any magnitude, such as suggested by Allison, between sickling and malaria.

A paper is in course of preparation in which fuller details will be given.

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Superior Sulcus Tumour

A superior sulcus tumour producing the typical syndrome reported by Pancoast (1932) may be caused by a variety of space-filling lesions of which the least uncommon is carcinoma of the bronchus. The following case is an example of such a tumour, and is reported because of its unusual longevity.

CASE REPORT

A man aged 55 was admitted to hospital on April 3, 1945, complaining of dyspnoea and pain in the right chest. An area of consolidation was present in the upper third of the right lung. A course of sulphathiazole resulted in some improvement, but abnormal signs persisted and on July 9 he was transferred to a thoracic surgical unit. He had had rheumatic fever at the age of 15 and had always had a slight productive morning cough, which had become more persistent since Christmas, 1944. In February, 1945, he had been in bed for ten days with a febrile respiratory illness.

Physical examination showed a gaunt man with gross finger-clubbing; vital capacity 3,500 c.cm. There were signs of consolidation with cavitation at the right apex posteriorly. He produced 1–2 oz. (28–57 ml.) of mucopurulent sputum daily, but numerous examinations by film and culture revealed no tubercle bacilli. No malignant cells, actinomycetes, or elastic fibres were seen. Bronchoscopy on July 12 revealed no abnormality apart from pus in the right bronchial tree. A chest radiograph on admission showed displacement of the trachea to the right, with an opacity in the upper zone of the right lung. On August 1 the radiologist reported an extension of the lesion and suggested neoplasm as the cause. Two attempts at bronchography did not reveal any bronchiectasis in the upper lobe segments, but the apical bronchus was incompletely filled. A diagnosis of possible carcinoma was made, and he was discharged home on October 13 with a recommendation to remain under observation, which he ignored.

He did not come for examination again until October 19, 1953, when he was referred to the orthopaedic out-patient department of the Bedford General Hospital with a six-months history of pain in the right shoulder and down the inner aspect of the right arm. Haemoptyses lasting a week had occurred nine months previously, and hoarseness had been noted for six months. His appetite was poor, lassitude marked, and he had lost a stone (6.4 kg.) in weight over the previous year.

On examination he was emaciated, had a right Horner's syndrome, restriction of right shoulder movement, and loss of power with wasting of the right arm accompanied by venous engorgement and trophic changes in the limb. A mass was palpable in the right supraclavicular fossa. Radiographs showed an opacity in the upper zone of the right lung and erosion of the neck of the third right rib and bodies of D3 and 4 on the right side.

He was admitted to hospital for investigation and soon developed a spastic paraplegia with sensory loss below D2. Laminectomy was performed on December 9, when the tumour mass was found to have involved D2 and 3 and caused considerable cord compression. Pressure was relieved and radiotherapy was started. He recovered for a while, but succumbed to a respiratory infection and died on January 9, 1954.

At necropsy both lungs showed bullous emphysema and terminal bronchopneumonia. A soft white tumour occupied the upper part of the right lung, and this had invaded the cervical muscles and vertebral column, penetrating to the cord, and had obliterated the right cervical sympathetic chain. There was no demonstrable connexion with a main bronchus. Histologically the tumour was a highly keratinized squamous-cell carcinoma. No evidence of tuberculosis or other pathological condition was found in the upper part of the right lung except tumour tissue and emphysema.

COMMENT

Superior sulcus tumour is a relatively uncommon growth, 151 cases having been reported up to 1946 (Herbut and Watson, 1946) and several since then, not all of which had been confirmed histologically. The survival time of these cases is usually short, the average time being about ten months from the onset of symptoms; this is four months less than the average for untreated bronchial carcinoma in other sites. Certain treated cases have, however, been reported with longer survival times: Haas *et al.* (1954), at least three and a half years; Chardack and MacCallum (1953), at least two and a half years; while Malcolmson (1947) recorded a case in which the diagnosis of lymphoblastoma in the apex of the lung was made at the Mayo Clinic and the patient lived for 18 years after x-ray therapy.

Untreated cases of bronchial carcinoma in any site which survive longer than eight years are themselves uncommon. Several authors report individual cases, the majority taking as their onset the development of definite signs or symptoms. Such durations are obviously open to question, as unequivocal diagnosis may not be obtained until very much later, but a few cases have been reported in which the patients have survived several years after definite diagnosis.

The case reported here was not confirmed histologically as a bronchial carcinoma in 1945, but there has been very little x-ray change in the right apical opacity during eight and a half years. The absence of tubercle bacilli on repeated examinations and the absence of any histological evidence of tuberculosis or chronic inflammatory condition, save terminal bronchopneumonia, in the right lung suggest that this was a case of peripheral carcinoma which had a long "silent period" in its development. It would be surprising, moreover, in this case for a neoplasm to arise, in the months prior to death, in an area of pulmonary fibrosis and to invade that area so exactly as to show almost no change on x-ray examination.

In view of the lasting radiographic evidence and post-mortem findings it is reasonable to suggest that this man had a tumour for at least eight and a half years before death.

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