Successful brush cytology in the early diagnosis of cancer of the oesophagus

A case report

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Summary

A case is reported of the first Xhosa patient known to have undergone a resection of a very early carcinoma of the oesophagus first diagnosed by abrasive brush cytology.

Early diagnosis, often as a result of mass education and screening programmes, has in recent years permitted successful treatment of carcinomas arising in the cervix, breast, lung, stomach and large bowel. In southern Africa, even though the oesophagus is readily accessible to screening by abrasive cytology and endoscopy, early diagnosis is as yet not true of carcinoma of the oesophagus. Instead, because symptoms only appear when the tumour is far advanced, the disease remains one of late diagnosis, relentless progression, and early death. However, successful screening programmes leading to the early diagnosis of many carcinomas amenable to surgery have been reported from other countries, most notably from China. This report deals with management of the first Xhosa patient in whom carcinoma of the oesophagus was identified by abrasive brush cytology in a pilot screening survey presently being conducted by the South African Medical Research Council.

Case report

Cells suggestive of squamous carcinoma were obtained by abrasive brush cytology of the oesophagus from a 63-year-old Xhosa woman. The patient was a seemingly healthy woman whose only symptoms were persistent discomfort on swallowing food, which had been present for many months, and pain related to the lower sternum and back. She was obese but had no significant abnormalities on physical examination. A barium swallow examination and endoscopy performed 1 month later revealed no abnormality in the oesophagus. A second brush cytological examination 8 months later yielded a diagnosis of carcinoma (Fig. 1).

A second endoscopy several months later revealed a small, rough, shallow erosion in the oesophagus 29 cm from the incisor teeth. This was biopsied. Histological examination of the specimen revealed an infiltrating, well-differentiated, keratinising squamous carcinoma. Consent for surgery was obtained and an Ivor Lewis two-stage oesophagectomy was performed 18 months after the patient first presented. At operation, there was no palpable or visible abnormality of the oesophagus and no extra-oesophageal spread. Prior to resection, the exact site of the tumour was demonstrated by intra-operative flexible endoscopy. Subsequent histological examination of this tissue revealed squamous carcinoma infiltrating the lamina propria but the deeper layers were free of tumour (Fig. 2).

The patient's postoperative course was uneventful apart from the dilatation of an anastomotic stricture 2 months after discharge. She remains well and has returned to work.

Discussion

Epidemiological studies of carcinoma of the oesophagus which have been conducted by workers in this country and elsewhere have shown that the disease occurs predominantly in men, with a peak incidence in the sixth and seventh decades. Furthermore, most studies consistently report a male to female ratio of 3:1 or greater. Similar results were obtained in the present study.
Fig. 2. Oesophagectomy specimen showing an early infiltrating squamous carcinoma (arrowed).

where,5,6 may lead in time to an effective means of prevention. Until this comes about, improved prognosis will depend on early diagnosis.

Mass cytological screening of the susceptible population in China has been shown to be successful in establishing the early diagnosis of carcinoma of the oesophagus5,6 at a stage when the tumour is still amenable to curative surgery. Studies confirming the efficacy of cytology in the diagnosis of carcinoma of the oesophagus have been performed in this country. The results of the present study in Transkei, as well as the pilot survey soon to begin in Ciskei, will need to be evaluated in order to establish whether the extraordinary success experienced in China can be repeated in southern Africa, and whether recommendations for mass screening programmes can be made for our at-risk population.

A point of particular interest noted in our patient was the apparently slow progress of the tumour. Abnormal cells were found on cytology 18 months before surgery. Even so, only a tiny area of disease was noted. This is in keeping with the experience of researchers in China, who regard carcinoma of the oesophagus as a disease with a prolonged prodromal period of oesophageal dysplasia, moving on to carcinoma in situ and stage I carcinoma before the rapidly progressive final phase when the disease first becomes symptomatic. This prolonged prodromal period suggests that carcinoma of the oesophagus may be particularly amenable to mass cytological screening.

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REFERENCES