Table 1 The effects of change from once- to twice-daily insulin (group 1) compared with continuing once-daily insulin (group 2)

	Group 1 (twice daily)		
	0 months	*3 months*	*Significance*
HbAlc[†§]	10.5 ± 1.8%	8.0 ± 1.5%	$P < 0.0001$
BMI[*§]	20.1 (6.7)	20.7 (6.5)	$P = 0.0003$
Hypo episodes[‡]	0.0	0.4 ± 0.8	$P = 0.02$
	Group 2 (once daily)		
HbAlc[†§]	9.7 ± 1.8%	10.4 ± 2.1%	$P = 0.003$
BMI[*§]	19.8 (3.1)	19.3 (3.7)	$P = 0.001$
Hypo episodes[‡]	0.0	0.0	*P* (NS)

*BMI, Body mass index. BMI is expressed as medians (inter-quartile ranges)
†HbAlc is mean ± standard deviation
‡Hypos = hypoglycaemia. All were mild, and the numbers are hypo episodes per patient per month (there were nine hypos in six patients in group 1 post-intervention)
§The fall in HbAlc (group 1 versus group 2) was 3.2% ($P < 0.0001$), and rise in BMI was 1.1 ($P < 0.0001$)

deterioration in HbAlc and BMI. No hypoglycaemia was reported.

Conclusions

Glycaemic control in African diabetic patients is generally poor,[2,5] and this contributes to the known excessive mortality from diabetes in the continent.[6] In this study we have described a simple and resource-free system of insulin delivery which led to a highly significant fall in HbAlc (mean drop at follow-up compared to the control group 3.2%, $P < 0.0001$). There was also a useful rise in BMI (most patients were excessively thin at baseline). We believe our study is the first to demonstrate this beneficial effect in a severely resource-limited area.

Once-daily insulin remains a common system of insulin treatment in the tropics, and we have shown that the move to two injections per day can be safely and effectively undertaken on an outpatient basis, with no monitoring systems or health-care support. The total daily insulin dose remained the same, and there were no resource implications apart from an increase in the use of syringes and needles (which was not large as our patients re-used their personal syringes). In common with western intervention studies associated with significantly improved glycaemic control,[3,4] we observed an increase in hypoglycaemia in patients moving to twice-daily insulin. However, this only amounted to 0.45 episodes per patient per month; all episodes were mild and easily self-managed, and no patient felt this was a problem. Nevertheless, we would recommend larger studies to exclude more significant hypoglycaemic risks.

Our study was small (though adequately powered), and relatively short-term. Nevertheless, we found dramatic glycaemic improvements associated with movement to twice-daily insulin which was successfully achieved with no extra resources. Both we and our patients were delighted with the response. We had considered extending our period of observation of the two groups, but felt that this would be unethical - the group 2 (once-daily insulin) patients were subsequently moved to two injections daily. The results of this study should question the current practice of using once-daily insulin systems in poor countries.

Acknowledgements

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References

1 Gill GV, Huddle KR, Krige LP. Intensive health screening of young black diabetics. *S Afr Med J* 1984;**65**:815–16
2 Gebrekidan A, Gill GV, Wile D, Gill AL, Tesfaye S. An accurate and portable system for glycated haemoglobin measurement in the tropics. *Tropical Doctor* 2004;**34**:94–5
3 Diabetes Control and Complications Trial Research Group. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *New Eng J Med* 1993;**329**:977–86
4 UK Prospective Diabetes Study (UKPDS) Group. Intensive blood-glucose control with sulphonylureas or insulin compared with conventional treatment, and risk of complications in patients with type 2 diabetes (UKPDS 33). *Lancet* 1998;**352**:837–53
5 Gill GV, Price C, Shandu D, Dedicoat M. Effectiveness of a nurse-led diabetes care system in rural KwazuluNatal. *J Soc End Diab S A* 2004;**9**:31
6 McLarty DG, Kinabo L, Swai ABM. Diabetes in tropical Africa: a prospective study 1981–7. II. Course and prognosis. *Brit Med J* 1990;**300**:1107–10

A review of the epidemiology of cancers at the University Teaching Hospital, Lusaka, Zambia

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SUMMARY This is a retrospective study based on pathology reports of specimens reviewed at the University Teaching Hospital (UTH) pathology laboratory in Lusaka, Zambia, from January 1997 to December 2005. UTH is the

main reference hospital in Zambia and has a catchment area covering 1.3 million people. The most common cancer among men was Kaposi's sarcoma followed by cancer of the eye, soft tissue sarcomas and cancer of the prostate. The most common cancer among women was cancer of the cervix, followed by cancer of the eye, cancer of the breast and Kaposi's sarcoma. Non-Hodgkin's lymphoma is the fifth most common cancer in both men and women. There has been a significant change in the pattern of malignancies at the UTH over the last 20 years, with an increase in Kaposi's sarcoma, cancer of the cervix and cancer of the eye.

Introduction

Zambia is a landlocked country in south central Africa. The national cancer registry has been poorly resourced and was estimated to capture approximately 10–15% of cancers nationwide.[1]

The University Teaching Hospital (UTH) in Lusaka is the main reference hospital in Zambia. Up to 90% of all biopsy samples obtained nationally are sent for reviewing and reporting to the UTH pathology laboratory.[1,2]

Objectives

The purpose of the review was to examine the pattern of malignancies seen at the UTH from January 1997 to December 2005 and to examine the cancers trends over the last 20 years. We expect to observe an increase in HIV related malignancies over this period in comparison to non-HIV related malignancies.

Methods

Retrospectively, we reviewed and recorded data on all cancers diagnosed at the UTH pathology laboratory from January 1997 to December 2005. The International Disease Classification (ICD) 10 was used. The specimens collected were fixed in formalin, embedded in paraffin wax and microtome sectioning was done. The slides were routinely fixed with haematoxylin and eosin. All slides were reported by a team of three consultant pathologists at the UTH. Though histological diagnosis was available, for the purpose of this study only the anatomical site of the cancer was used. The data were entered into a database; key parameters included the patient's age, sex, tumour anatomical site and the year of diagnosis.[2] The incidence of each particular tumour could not be determined because the population pool was uncertain. The study used proportional incidence to determine annual trends. Proportional incidence was defined as the number of malignancies at a particular site over the total number of malignancies reported in that particular year. This allowed for proportional comparisons to be made between malignancies at different sites.

The data is purely descriptive; therefore no analytic statistics were used.

Results

A total of 6672 tumour specimens were reviewed in the UTH pathology laboratory over the nine-year study period. The male to female ratio was 1:1.5 (2645 males; 4027 females).

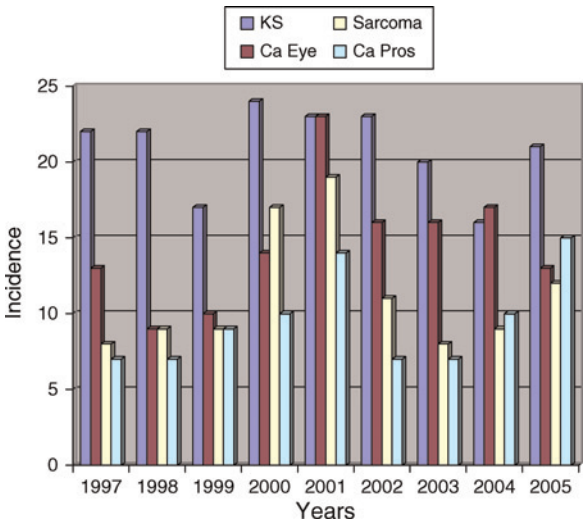

Figure 1 Cancer trends in males

The five most common cancers in males were Kaposi's sarcoma (20.6%), cancer of the eye (14.3%), soft tissue sarcomas (10.9%), prostate cancer (9.2%) and non-Hodgkin's lymphoma (6.3%). The five most common cancers in females were cancer of the cervix (41.5%), cancer of the eye (9.0%), breast cancer (8.6%), Kaposi's sarcoma (7.6%) and non-Hodgkin's lymphoma (5.0%). There was a general increase in the proportional incidence in the five main cancers in both sexes, with a peak in 2001, which was followed by a modest decline (Figures 1 and 2). The histological report for cancer of the eye indicated that 85% of cancers were squamous cell cancer.

Discussion

The total malignancies reported declined[1,2] but the male to female ratio increased. Cancer of the eye increased from

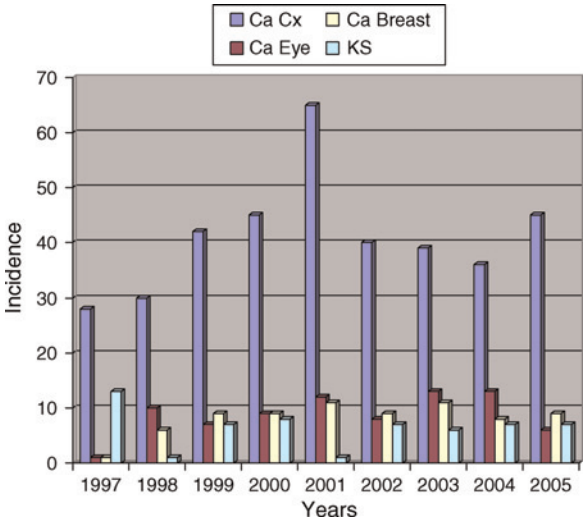

Figure 2 Cancer trends in females

2.1% in 1980–1989 to 11.3% in this review. Kaposi's sarcoma showed similar trend: from 3.1% to 20.6% in men and from 0.0% to 7.6% in women. Cancer of the cervix, on the other hand, showed only a modest increase from 39.8% to 41.8%.[3,4]

Ninety-five percent of cancers of the cervix were associated with the high prevalence of oncogenic strains of mucosal human papilloma virus (HPV).[5] Studies have shown a high prevalence of HPV 16 and 18 subtypes at the UTH: 42% of all HPV strains isolated, in contrast to 10% in USA.[5] The prevalence of HIV among random samples of female patients visiting the UTH was 39.2% and, of these, 56% were found to be positive for HPV.[5]

Kaposi's sarcoma is associated with human herpes virus 8 (HHV 8) and there has been a notable increase of the disease in HIV-positive patients in Zambia.[6]

This study shows a change in the pattern of mucosal cancers seen which may be related to HIV infection, HPV and HHSV8.[6,7,8]

References

1 Parkin DM, Ferley J, Hamdi-Cherif M, *et al.* International Agency for Research on Cancer World Health Organization. *Cancer in Africa: Epidemiology and Prevention*. Lyon, France: IARC Press, 2000; Publication 153:180

2 Patil P, Elem B, Zumla A. Pattern of adult malignancies in Zambia (1980–1989) in light of the human immunodeficiency virus type 1 epidemic. *J Trop Med Hygiene* 1995;**98**:281–4

3 Watts T. Zambia: the cancer registry of Zambia, Lusaka, November 1981–May 1983. In: Parkin DM, ed. *Cancer Occurrence in Developing Countries* (IARC Scientific Publications No. 75). Lyon: ARC, 1988b:117–21

4 O' Riordan EC. Department of Pathology, Ndola Central Hospital 1976–1979. In: Parkin DM, ed. *Cancer Occurrence in Developing Countries* (IARC Scientific Publications No. 75). Lyon: ARC, 1986:118–23

5 Ng'andwe C, Lowe JJ, Richards PJ, Hause L, Wood C, Angeletti PC. The distribution of sexually transmitted human papillomaviruses in HIV and HIV negative patients in Zambia, Africa. *BMC Infect Dis* 2007;**7**:77

6 He J, Bhat G, Kankasa C, *et al.* Seroprevalence of human herpesvirus 8 among Zambian women of childbearing age without Kaposi's sarcoma (KS) and mother-child pairs with KS. *J Infect Dis* 1998; **178**: 1787–90

7 Atenyi-Agaba C. Conjuctival squamous cell carcinoma associated with HIV, in Kampala, Uganda. *Lancet* 1995;**345**:695–6

8 Poole TR. Conjuctival squamous cell carcinoma in Tanzania. *Br J Ophthalmol* 1999;**83**:177–9

Anal carcinoma in a tropical low socio-economic population in the new millennium: what has changed?

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SUMMARY The paper is a retrospective look at the clinicopathological presentation of carcinoma of the anal canal in a tertiary health institution in Nigeria. Sixty-five patients were diagnosed with anal carcinoma over a five-year period (2002–2006) from a total of 394 patients who had malignancies of the colon, rectum and anus. The male: female ratio was 1.2: 1 showing a slight male predominance; the average age was 48 years; tenesmus, bleeding *per rectum* and anal pain were the most common presenting features. None of the patients tested positive to HIV during the duration of their stay in hospital. The most predominant histopathological subtype was adenocarcinoma – a departure from the hitherto squamous cell cancer dominance. Thus, only a few patients benefited from chemo-radiation; the majority had abdominoperineal resection while quite a significant proportion of patients (27.7%) declined any form of treatment for socio-cultural reasons.

Introduction

We report on the presentation, histopathological subtypes and treatment offered for patients with carcinoma of the anal canal in a Nigerian tertiary institution over a five-year period. This retrospective study examines the differences between previous reports on this disease and our present findings.

Materials and methods

This is a retrospective study of all the patients who were diagnosed with carcinoma of the anal canal at the University College Hospital, Ibadan, Nigeria over a five-year period from January 2002 to December 2006. The necessary