J Clin Pathol 1986;**39**:1276–1279

Letters to the Editor

Ploidy studies in adenomatous polyps of colon

I read the paper by Whitehead *et al*[1] with great interest as their findings parallel some results, which Dr George Sledge and I have obtained with germ cell neoplasms of the testis.

The conclusion that, "Dukes's (sic) A tumours which have invaded no farther than the bowel wall, if they are aneuploid, exhibit the less severe form (type 3) re-emphasises the importance of early recognition and removal of both adenomatous polyps and carcinomas of the colon" is misleading and not supported by the data in table 1.[1] It is inconsistent to construe that the difference between zero instances of type 4 histograms in stage A carcinomas, two instances in stage B, and one in stage C is meaningful and at the same time draw no conclusion from the observation that 11 of the 14 instances of type 1 histogram occurred in the tumours that had behaved most agressively. Thus from the data one might better conclude that aneuploidy does not correlate well with neoplastic progression and aggressiveness in colonic epithelial neoplasia. It seems to occur only in malignant neoplasms, but it could be argued that the data would support a concept that it is merely a side effect of the fundamental disorder of growth, and perhaps even one which gets in the way.

The same arguments apply to their conclusions in the last paragraph that, "the findings in this study also support the view that the malignant process in cancer of the colon is a stepwise process." Their conclusion, "There is clearly a case for ploidy studies on all adenocarcinomas of the colon, especially with the technique used in this study, which is simple and cost effective...," is also questionable as the technique entails much special equipment and software not available in most hospital pathology laboratories and as their data do not show a correlation between ploidy and prognosis in colonic adenocarcinoma.

Lastly, although the authors state in the discussion that "25 of the 41 carcinomas examined were diploid" and (referring to textual citations of 15 cases of type 1 histogram, 10 cases of type 2, 13 cases of type 3, and 3 cases of type 4) that "Tables 1 and 2 summarise these results," table 1 tabulates only 36 carcinomas altogether and shows only 24 of them as diploid. The two tables also show 27 instances of type 1 histogram (14 carcinomas, 13 adenomas), 13 instances of type 2 (10 carcinomas, 3 adenomas), nine instances of type 3 (all carcinoma), and three instances of type 4 (all carcinoma). Thus the text and the tables disagree on the number of carcinomas, the number of diploid carcinomas, and the numbers of types 1 and 2 cases.

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Reference

1 Whitehead F, Jarvis LR, Skinner JM, Whitehead R. Ploidy studies in adenomatous polyps of the colon. *J Clin Pathol* 1985; **38**:1261–4.

Dr Whitehead and colleagues reply:

We are pleased that Dr Eble has found our paper to be of such interest, and we appreciate his detailed appraisal. We are surprised, however, by the comment that we drew no conclusion from the fact that most of the invasive carcinomas showed an apparently diploid characteristic. Our discussion makes clear reference to this observation, and we conclude that in the cases we examined abnormality in ploidy distribution does not seem to correlate well with histological features of malignancy. We are in complete agreement with Dr Eble's comments on this point. As to ploidy abnormality being a "side effect" and a feature of disordered growth that "gets in the way" (presumably of invasion), we cannot argue that our results support such a hypothesis. We have suggested that the results indicate that the change from diploid to aneuploid may occur after the disorder that determines the property of invasiveness and thereby represent a new adverse trend in those tumours and that this supports the notion of a stepwise malignant process with increasing epithelial abnormality. This concept has been admirably discussed and supported by ploidy analysis of a large number of adenomas and carcinomas, in a recent publication in this journal.[1]

Whatever conclusion is drawn from our work, it remains clear from other studies that ploidy abnormality is a feature of adenocarcinoma of the colon that correlates well with poor prognosis, and furthermore, recent studies have shown that aneuploidy occurs in adenomas.[1] From such published evidence there is, indeed, a case for ploidy analysis on all adenocarcinomas of the colon. Our suggestion is that the techniques used in our study, being based on microcomputer technology, make the analysis cost effective. Although the necessary equipment will not be available in most hospital laboratories, we would be pleased to assist any interested group in establishing such a facility.

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Reference

1 Goh HS, Jass JR. DNA content and the adenoma-carcinoma sequence in the colon rectum. *J Clin Pathol* 1986;**39**:387–92.

False positive results with an ELISA for detection of chlamydia antigen

A recent editorial in the *Lancet*[1] highlighted the growing recognition of the morbidity associated with *Chlamydia trachomatis* in women. It also posed the question of how adequate diagnostic facilities could be made available to screen groups at risk.

Apart from their cost, enzyme immunoassays have the potential to be used for screening large numbers of specimens. Pugh *et al* recently reported favourably on an enzyme amplified immunoassay for diagnosis of *C trachomatis*.[2] We performed a small evaluative study of our own, comparing the same immunoassay system with a conventional chlamydia culture system. During the study, six routinely submitted rectal swabs were examined, and to our surprise four of the six gave strong positive results in the enzyme immunoassay. These specimens were all negative by culture, as were the corresponding urethral swabs. We suspected that the enzyme immunoassay results probably represented false positives and therefore investigated this problem further.

All swabs were received in our conventional chlamydia transport medium. A prior evaluation had shown this to give satisfactory results in the enzyme immunoassay with genital specimens. It had the advantage that the same swab could be tested by both culture and enzyme immunoassay. Culture was performed by inoculating specimens on to coverslips of McCoy cells treated with cycloheximide. Each specimen was inocu-