

TABLE II—PEAK INSULIN VALUES

	Peak insulin values (μU./ml.)		
	Baseline	D.P.H.	Diazoxide
1 g. tolbutamide	143	92	228
25 g. glucose	152	90	228

this labile pool from a larger storage compartment.³ In the isolated perfused rat pancreas, D.P.H. inhibits both phases of I.R.I. release. Diazoxide inhibits I.R.I. release from the labile pool, but continues to allow insulin to be provided by the larger storage compartment. These studies suggest that D.P.H. has a theoretical advantage over diazoxide for blockade of insulin release. The results obtained in our patient are consistent with this view. D.P.H. therefore appears to be a promising agent in the treatment of selected patients with insulinoma.

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EVIDENCE AGAINST ASSOCIATION
BETWEEN WET CERUMEN AND
BREAST CANCER

SIR,—Petrakis⁷ suggested a possible association between wet cerumen and human breast cancer. The hypothesis was formed following the observation of a correlation in several countries between the frequency of the wet allele and the mortality-rate from breast cancer. The hypothesis seemed reasonable because the breast and the ceruminous gland, in addition to being apocrine glands, share many biochemical characteristics. A twofold but statistically insignificant higher proportion of wet cerumen was found among 31 Japanese women in California with breast cancer than in Japanese control women. It was noted that statistical confirmation of these case-control studies would require far larger numbers of Japanese women with breast cancer than are found in California. We now report a test of the hypothesis among Chinese women in Hong Kong, a population significantly dimorphic for cerumen.

Methods for examining the external ear canal and the defining characteristics of the cerumen types have been described.⁸ Patients with breast cancer or other malignant diseases were seen at the radiotherapy division at Queen Mary Hospital and at Nam Long Hospital, both in Hong Kong. The control group consisted of healthy individuals and outpatients at various clinics in Hong Kong and

surgical patients with acute conditions in the Government surgical unit at Queen Mary Hospital. In addition, the percentage of dry cerumen among breast-cancer patients surviving five years or more was compared with that in patients whose cancer was diagnosed in 1971.

To examine further whether cerumen type might reflect an intrinsic factor influencing the survival of breast-cancer patients, the system described by Bloom and Richardson⁹ was used to determine histological grade in a number of breast-cancer patients with known cerumen types.

As the accompanying table shows, we found no significant differences in the frequencies of the allele for dry cerumen in breast-cancer patients, inpatients with various other malignant diseases, patients with thyrotoxicosis, and control patients and subjects. No correlation was found between the percentage of wet cerumen among breast-cancer patients who had survived for five years or more and that in patients whose cancers were diagnosed in 1971; however, it should be emphasised that survival is related to early diagnosis and treatment. No significant relationship was found between cerumen type and the histological grade of the tumour.

Thus, results of the present large-scale case-control study of Chinese women in Hong Kong do not support the hypothesis of a genetic apocrine factor in susceptibility to breast cancer. If an association exists it must be an indirect one.

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SERUM-ZINC AND HEALING OF
VENOUS LEG ULCERS

SIR,—We were very interested in the work of Dr. Hallböök and Dr. Lanner (Oct. 14, p. 780) and in their findings of a direct relation between serum-zinc levels and healing of leg ulcers. This adds to the accumulating evidence of a possible role for zinc in tissue repair. It seems from their paper, however, that serum-zinc levels in leg-ulcer patients were compared with an arbitrary value of 110 μg. per 100 ml., implying that levels below that figure were subnormal. In a healthy population, serum-zinc levels fall in a range distributed around a mean value, so that figures below or above this mean may also be considered normal. The mean serum-zinc level in the group of patients under discussion is calculated to be 116 μg. per 100 ml. and, in the light of the reference value used, this does not support the view that zinc deficiency is a

7. Petrakis, N. L. *Science*, 1971, **173**, 347.
8. Matsunaga, E. *Ann. hum. Genet.* 1962, **25**, 273.

9. Bloom, H. J. G., Richardson, W. W. *Br. J. Cancer*, 1957, **11**, 359.

CERUMEN PHENOTYPES AND FREQUENCY OF ALLELE FOR DRY CERUMEN AMONG CHINESE PATIENTS IN HONG KONG

Groups studied	Total no. examined	No. wet	No. unclassifiable	% wet	% dry	Estimated frequency of dry allele	Standard error
<i>Patients</i>							
Breast cancer	296	107	4	36.1	63.9	0.80	0.035
Cervical cancer	38	11	0	28.9	61.1	0.84	0.087
Other malignancies	87	35	1	40.2	59.8	0.78	0.068
Thyrotoxicosis	157	58	2	36.9	63.1	0.79	0.017
<i>Controls</i>	408	129	0	31.6	68.4	0.83	0.028
Total	986	340	7	34.5	65.5	0.81	0.017