TABLE V.—Unusually High Intrinsic Factor Requirement
(Patient J. S.)*

Intrinsic Factor Source	Amount	Urinary Excretion (%)
None (B ₁₂ alone) ..	—	0.1, 0.2
186-I (crude) ..	50 mg.	2.2, 1.7, 0.9
	500 „	7.7
727 (purified) ..	5 „	0.2
	50 „	11.0
	100 „	19.0
Acid human gastric juice	30 ml.	6.4
	50 „	11.5

* We acknowledge the co-operation of Dr. Jerome Adelman, of Brooklyn Jewish Hospital, Brooklyn, N.Y., for permission to study this patient.

gastric juice. This, taken together with the fact that Patient 9 had a low excretion with I.F. prior to any oral therapy, emphasizes the importance of conducting control absorption studies on the same patients prior to oral therapy.

The 2 to 3 U.S.P. units used in the urinary excretion tests in the present report could not be classified as a large dose. In most of the reports describing refractoriness, doubling or tripling the dose was not adequate to restore absorption where absorption was blocked. The necessity for using an amount of intrinsic factor contained in 2 to 3 U.S.P. units in the urinary excretion test with 2 µg. of radio-labelled vitamin B₁₂ has been pointed out in previous communications (Williams *et al.*, 1956; Ellenbogen and Williams, 1958). Furthermore, the same amount of I.F. was used in the urinary excretion test at the beginning of the maintenance study as at the completion of the study with I.F. WES 592.

There appears to be no outstanding explanation why only one patient (No. 6) out of 24 patients showed a reduction in absorption of vitamin B₁₂. She was an extremely uncooperative subject, but a repeat urinary excretion test gave the same result. Possibly some type of latent malabsorption was developing.

Summary

Nine P.A. patients maintained on different B₁₂-I.F. preparations for 5 to 36 months, and then for 7 to 18 months on a single vitamin B₁₂-I.F. preparation equivalent to 2 U.S.P. units, failed to develop any resistance to the later preparation.

Only one out of 24 patients showed any significant indication of reduced absorption after oral maintenance for from 5 to 20 months on a preparation equivalent to 1 U.S.P. unit.

One P.A. patient who had never received oral therapy required approximately 20 times the usual amount of I.F. for optimum vitamin B₁₂ absorption.

It is concluded that some I.F. preparations can successfully maintain P.A. patients for long periods without showing impaired absorption of vitamin B₁₂.

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Medical Memoranda

Alveolar Soft Part Sarcoma

Alveolar soft part sarcoma, or metastasizing non-chromaffin paraganglioma, is a rare tumour with a distinct histological and clinical picture. Smetana and Scott (1951) and Christopherson *et al.* (1952) have each recorded a small series of cases; another case was described by Randall and Walter (1954). A further case is reported below.

CASE REPORT

In November, 1953, a woman aged 20 was referred to the chest clinic from the mass radiography unit. She complained of cough and lassitude, and there was a family history of tuberculosis. Chest x-ray examination showed a partly calcified focus beyond the left hilum. Thereafter she was observed regularly. In September, 1954, a round focus was noted in the left lower lobe; shadows appeared later at the left base (Fig. 1), and in July, 1955, she was admitted to Bow Arrow Hospital under the care of Dr. Michael Gibson. She was Mantoux-positive, and was treated with streptomycin and isoniazid; but doubt was expressed about the nature of the lesion. She returned home, and in November, 1956, attended the chest clinic when eight months pregnant; round foci were present in both lower lobes, and she was admitted to Grove Park Hospital. She had now developed a firm, painless swelling 2 by 3 in. (5 by 7.5 cm.) in the left erector spinae muscle. She was delivered of a healthy child on January 9, 1957.

FIG. 1.—Radiograph of chest (May, 1955).

The tumour in her back was thought to be a hypernephroma, and an intravenous pyelogram was reported as diagnostic of this. Mr. A. Cavendish performed a retrograde pyelogram, which showed surprisingly little deformity of the pelvi-caliceal pattern. Mr. J. Jemson took a biopsy specimen from the muscle tumour, and Dr. M. O. Skelton gave the

FIG. 2.—Section of muscle taken for biopsy. ($\times 200$.)

FIG. 3.—Muscle tumour in erector spinae (after biopsy).

FIG. 4.—Radiograph of chest (September, 1958).

following report: "Section shows connective tissue invaded by epithelial cells showing in places a papillary arrangement, and in places as small groups of cells; in the light of the failure to demonstrate any renal neoplasm, I think this is a non-chromaffin paraganglioma, a so-called alveolar soft part sarcoma" (Fig. 2). Sections were sent to Professor W. M. Christopherson, of the University of Louisville, who commented on "the presence of very dense eosinophilic cytoplasm in many of the cells," and thought the tumour belonged to this group.

No further treatment was advised. The patient has continued her ordinary life and feels well. The mass in her back is unchanged (Fig. 3). Apart from several small haemoptyses and persistent amenorrhoea she remained well throughout 1958, but the pulmonary metastases have increased considerably (Fig. 4).

COMMENT

This tumour commonly presents as a slow-growing, painless mass developing in an extremity; usually it is encapsulated and located in a muscle or musculo-fascial plane. The majority of the patients have been young women; metastases are common and chiefly pulmonary. The prognosis is very variable; some patients have lived many years after excision of the primary tumour, and others with metastases have remained well for years. Treatment is surgical excision of the primary tumour; there has been no response to x-ray therapy; lobectomy has been performed occasionally for isolated pulmonary metastases.

Histologically there is a pseudo-alveolar arrangement of cells, the groups being separated by connective-tissue fibrils or vascular channels. The cells are polyhedral or oval with mildly acidophilic cytoplasm; the nuclei are large and vesicular. There is a vascular invasion by groups of cells, but this does not seem to bear on the prognosis. Primary and secondary tumours are histologically similar.

This tumour can be distinguished from renal carcinoma and from varieties of myosarcoma by the clinical course. The histogenesis is obscure; an origin from non-chromaffin paraganglionic tissue such as occurs in the carotid body (LeCompte, 1948) and retroperitoneal paraganglioma has been suggested, but Christopherson (1957, personal communication) is strongly opposed to this view. He considers the evidence for paraganglionic tissue in skeletal muscle rather nebulous; he prefers the non-committal term "alveolar soft part sarcoma."

I thank Dr. M. O. Skelton for the biopsy report and the photomicrograph.

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Samples of dust collected from the atmosphere at a height of about one metre above the ground at Chilton, Berkshire, show that radioactivity dropped to a very low level after nuclear test explosions were suspended. The monthly concentration of caesium-137 reached its highest peak of 10^{-13} $\mu\text{C}/\text{c.cm.}$ in May, 1959. (*The Radioactivity of the Atmosphere Near Ground Level due to Distant Nuclear Test Explosions*, 1960, Health Physics Division, Atomic Energy Research Establishment, Harwell. H.M.S.O. Price 1s. 9d.)