the sacrum, suggests that there was a septic focus somewhere in that bone. All these abscesses healed after drainage without the separation of a sequestrum.

Cœliac Disease with a Conditioned Vitamin Deficiency resembling, but not typical of Pellagra.—REGINALD LIGHTWOOD, M.D., and VICTORIA SMALLPEICE, M.D.

B. S., male, aged 15 months, the second child of a healthy family living in excellent surroundings. Birth-weight 6 lb. 12 oz. Breast-fed six months and has since had marmite, halibut oil or radiostoleum, and orange juice continuously.

Well till 5 months, when he developed a rash on the trunk which spread to the limbs and persisted. At 6 months attended out-patient department (Radcliffe Infirmary, Oxford) on account of seborrhœic eczema, and was admitted at 8½ months as weight had fallen from 15 lb. 14 oz. at 6½ months to 12 lb. 14 oz. In-patient two months, during which time he developed measles. Investigations said to have included lumbar puncture, barium meal, and X-ray examination for rickets—all proving negative.

Condition on examination 19.6.37.—11 months. Weight 14 lb. 1 oz.; very small; irritable; frowning but no true photophobia (fig. 1); high colour; dry eczematous

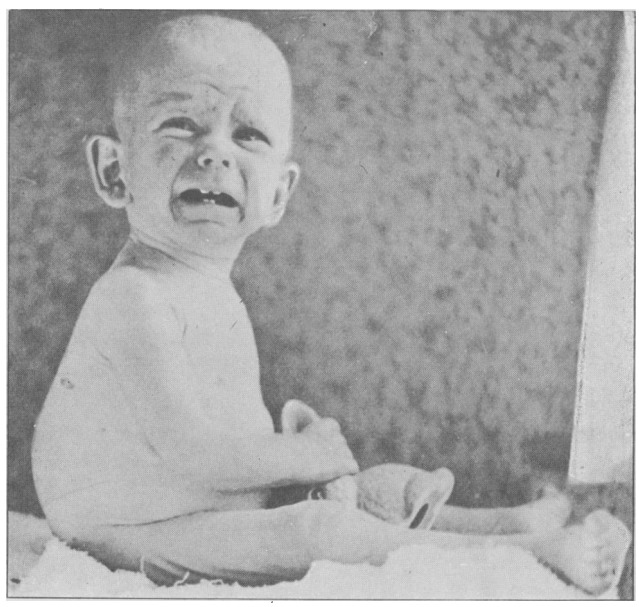

FIG. 1.

skin. Marked hypotonia with kyphosis; wasting (figs. 2 and 3), especially of buttocks; hands and feet large in comparison with limbs; fingers sausage-shaped and bluish-red in colour. Abdomen very large. Knee-jerks obtained with difficulty. Has never crawled or been able to raise himself to sitting position. Mother notices that arms very quickly get tired and he resents having his hands touched. Dislikes his food. Motions recently large and offensive, two daily. During the last three weeks corneal changes have been noticed.

FIG. 2.

FIG. 3.

Investigations

X-ray (Dr. Shires, 21.6.37).—*Wrists and hands:* No bone changes.

Wassermann reaction: Negative (mother and child).

Urine: Faint trace of albumin on one occasion; subsequently no albumin, no sugar.

Stool analysis (expressed as % of dried fæces):

	19.6.37	*3.7.37*	*10.9.37**
Split fat	20·87	40·5	12·5
Unsplit (neutral)	1·78	2·0	19·2
Total fat	22·65	42·5	31·7
Percentage of fæcal fat (split) ...	92·1	95·3	39·4
Percentage of fæcal fat (unsplit) ...	7·9	4·7	60·6
Microscopic	Nil		

*Whilst on low fat diet.

Progress and treatment 9.7.37.—Nine days' treatment with 5 c.c. concentrated vitamin B_1 extract twice daily, kindly supplied by Professor Peters. Skin showed improvement but appetite unchanged and weight continued to fall.

16.7.37: Low fat diet. Gain of 14 oz. in first two weeks, but this was not maintained. At this time he was not seen regularly.

4.10.37 : Was back on normal diet. Face is beefy red and shows some scaling. Legs : Areas previously sunburnt have become raised, red, and scaly since this date. Is taking marmite, halibut oil and fruit juice.

Ophthalmologist's report : Mr. J. H. Doggart described the corneal condition as follows : "There is a horizontal, band-shaped opacity of the corneæ due to hyaline degeneration of the interpalpable region."

Vitamin supply has been provided for as follows : (1) Orange-juice daily since weaning at six months ; (2) ryzamine B, ℥i, daily for the past two months ; (3) radiostoleum, ℥iii, daily for the past three and a half months ; previously, halibut oil, ℥iii daily.

The clinical picture presented by this patient is very unusual. At first glance, pink disease might be suspected, but on closer examination the distribution of the rash and its colour are seen to be not at all like that of pink disease. Further, the condition has been getting gradually worse for ten months, a much longer course than that usual in pink disease. Again, the infant has not been noticeably sweaty or shown sustained tachycardia.

In some respects, the skin lesions suggest pellagra but are not typical, and it is difficult to see how such a deficiency could have arisen, unless it be a "conditioned" vitamin-B deficiency. If the suggested diagnosis of cœliac disease is correct, this might have brought about such a "conditioned" deficiency by interfering with intestinal absorption. It is possible that the condition of the corneæ may be due to vitamin-A lack, though again, the appearance is not characteristic.

Discussion.—Dr. R. C. JEWESBURY said he would like to have more information about the diet and the character of the stools. What was the amount of total fat and split fat ? He thought the case resembled one of vitamin deficiency but he admitted that the exact diagnosis was very difficult.

Dr. H. S. STANNUS said he thought the condition was not pellagrous ; the history and the dermal manifestations hardly fitted in with that disease. It would be interesting to determine the intravenous glucose curve by Ross' method. Exhibition of a crude liver extract, such as campolon, might be well worth while quite apart from any reticulocytosis produced.

Dr. RICHARD HAMBURGER : In the abnormal stools of cœliac disease rapid passage of intestinal contents is confined principally to the small intestines (R. Freise). In consequence of the short stay of intestinal contents in the small intestines, the digestive process normally carried out by this viscus is imperfect. This deterioration of the digestive process offers a reasonable explanation for the unsatisfactory utilization of certain foodstuffs in general and in particular of the vitamin administration in this case. The disproportionate rate of peristalsis may be tested by barium meals. Where this mechanism is present tincture of opium materially helps digestion and absorption by slowing down the movement of the small intestines.

Dr. PEARSE WILLIAMS said that the distribution of the rash was noteworthy ; it was limited to the exposed parts of the limbs and the face. On first inspection the condition much resembled that seen in pink disease. It was probably an allied nutritional disorder. He also suggested liver extract as an addition to the increased dosage of vitamins which had been recommended.

Dr. VERNON BRAITHWAITE agreed that though the patient presented some symptoms resembling pink disease that condition was not really present. He suggested that the child was suffering from physical allergy to light or heat—as described by Dukes. The skin lesions all occurred on the exposed parts, and the therapeutic test of keeping the child in subdued light and a cool atmosphere would be worth a trial.

POSTSCRIPT (13.11.37).—From October 25, campolon ½ c.c. intramuscularly twice weekly, and tincture of opium ℥i with kaolin twice daily, have been given. The weight (previously stationary) has increased by more than 2 lb. and the skin lesions have begun to recede.—[R.L.]