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CHANGES IN BODY COMPOSITION DURING NUTRITIONAL REHABILITATION.

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INTRODUCTION.

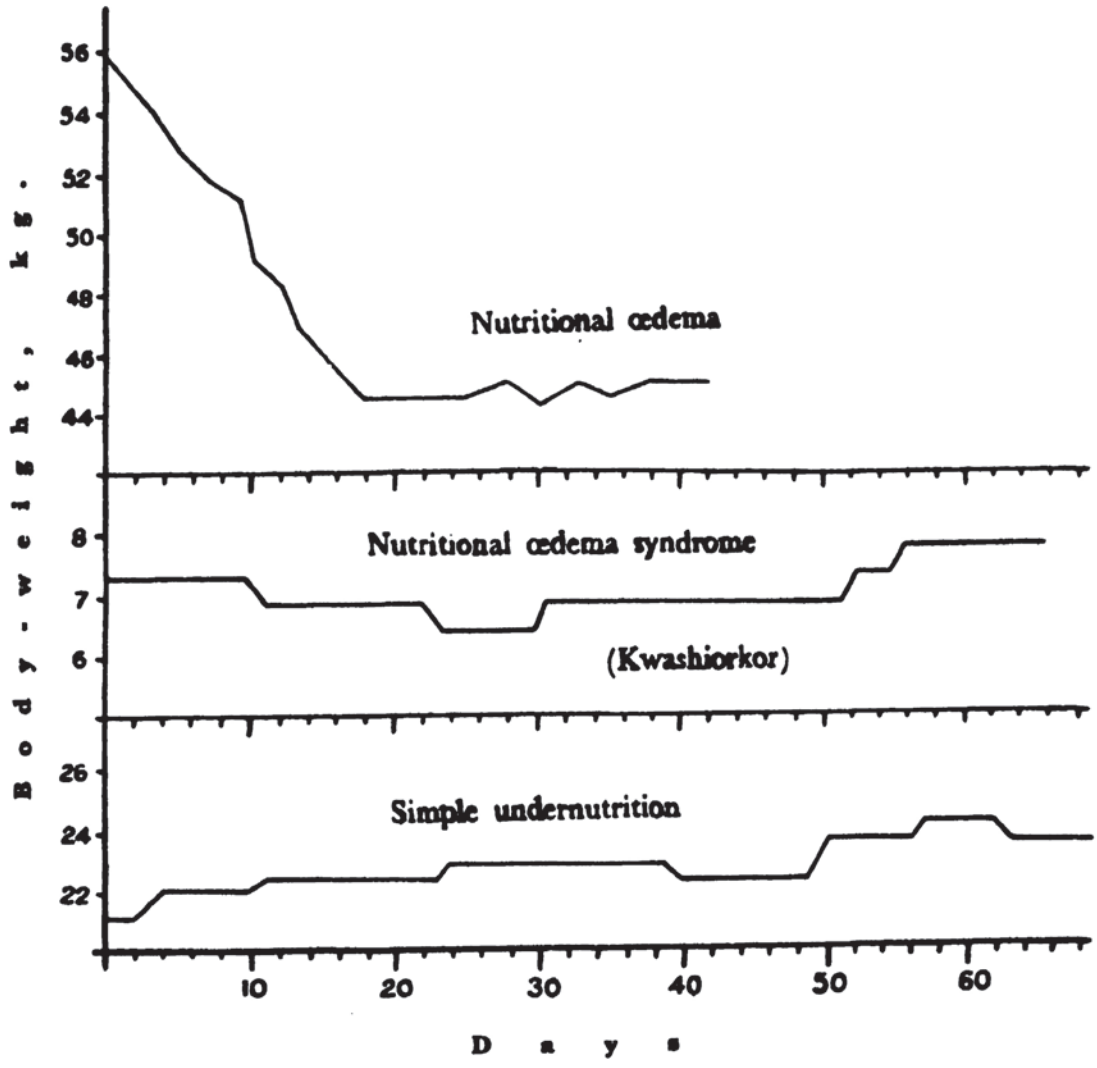
IT is well known that in undernutrition there is often a disturbance in body hydration. The significance of changes in body weights during the early phases of nutritional rehabilitation in undernourished subjects is often vitiated by this factor. For instance, the increase in body weights in these patients due to build-up of tissue after feeding may be masked by a concomitant decrease in body weights brought about by the diminution in excess body fluid. This phenomenon may partly account for an almost stationary phase in body weight frequently found during rehabilitation of cases of nutritional œdema in adults and of nutritional œdema syndrome (kwashiorkor) in children. It is, however, frequently observed that the stationary phase in body weight persists in these subjects long after the disappearance of the œdema, and indeed it is also sometimes seen in subjects suffering from simple undernutrition without any œdema. Under these circumstances, the question arises whether the failure to put on body weight according to reasonable expectations can be wholly explained on the basis of concomitant diminution in body hydration or whether other factors besides this also operate. It was felt

for several days. In cases of 'simple' undernutrition without œdema the stationary phase was observed from the very beginning of rehabilitation. The duration of the 'stationary phase' was, however, seen to vary from case to case. At the end of the rehabilitation period which ranged from 8 to 12 weeks, the weights had not reached the expected levels in any case investigated.

It was clear from the results that changes in body weight gave a misleading picture regarding the build-up of total solids. It will be seen from the Table that the increase in total body solids was, in all but one case, greater than the amount of protein actually retained.

GRAPH.

Showing body-weight during nutritional rehabilitation.



Ind. Jour. Med. Res., 43, 3, July, 1955. PLATE XI.

Case of undernutrition showing swelling of the parotid glands during rehabilitation.

Summary.

1. Simultaneous body composition and nitrogen balance studies were carried out in eight cases of undernutrition.

2. It was found that changes in body weight tended to give a misleading picture of the actual gain in tissues during nutritional rehabilitation.

3. The weight of total body solids built-up was greater than the protein (N $\times$ 6·25) retained in all but one case.

4. Since, however, an appreciable amount of the total body solids was probably due to an increase in fat, it was not clear whether all the protein retained was accounted for by an increase in the tissue built-up.

5. Some clinical changes that took place during rehabilitation are mentioned.

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