

Atrophy and Marasmus.

A LECTURE DELIVERED AT THE INFANTS' HOSPITAL, VINCENT SQUARE, S.W.

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Of the two terms which I have chosen for my lecture this afternoon, Marasmus is probably the one most commonly used. It means very little, since, as I explained in my last lecture, it is only a Greek word meaning wasting. On the other hand, the term Atrophy is a correct term, and, therefore, a very much better one, because it signifies the essential character of the disease. The more you study malnutrition, the more you will realise the essential character of it is a loss of function. I impress upon you, therefore, that while marasmus is rather a poor term, atrophy is a very good one, because it conveys the meaning of the condition we have to deal with.

THE ATROPHIC CONDITION.

The appearance of an infant suffering from atrophy is very characteristic. As you are doubtless aware, one of the commonest remarks passed about an infant in an atrophic or marasmic condition is that it looks very old. It has the appearance of old age. Its cheeks are sunken, its features are withered and wizened, and generally it has the appearance of individuals in a condition of senile decay. In old age this is the natural consequence of events. The vital activity of the cells of the digestive organs are gradually lessening until the processes become so feeble as to be incompatible with life. In the infant, the atrophy is similar, both in its nature and in the appearances to which it gives rise. The cause is different. The sunken cheeks and the withered appearance are due to the subcutaneous fat disappearing, this being consumed in the processes of oxidisation. That is the reason why the atrophic infant shows the appearance I have described; that is the reason the aged person is wrinkled and wasted.

The relationship between the food received and the digestive reactions in the young infant is extremely profound, and we see this relationship exemplified in the baby more than in any other individual, because it is the time above all of development. I introduce to your attention at the outset of our discussion on atrophy some very important researches which Professor Pawlow, of St. Petersburg, carried out some time ago.

The lecturer here gave details of these researches, showing that an almost exact proportionate relationship exists

between the quantity and quality of gastric juice secreted and the amount and character of the food taken, illustrated by a table, to which we hope to refer in a future issue.

Assuming that an infant is improperly fed, it means that it is not receiving milk of a proper character, which is the only article which it should receive. And the point I wish to impress upon you is that not only is the baby being deprived of the food and hence is being starved, but because the digestive glands are not being exercised in the way they should be, the development of these glands is irretrievably injured. You see from this table that a large amount of secretion is required to deal with milk; if the gastric cells are not stimulated by not being called upon to provide this secretion, they rapidly deteriorate and atrophy. All digestion is a response to stimulus; remove the stimulus and you take away the exercise, and just as a muscle will atrophy if it is never used, so the whole digestive structure of the infant becomes inevitably and incurably enfeebled if the absence of the healthy stimulus is allowed to continue.

Let me remind you of certain conditions which are necessary to produce the terrible appearance presented by an infant suffering from a severe degree of atrophy. First, it must be healthy and of good size at birth. In the second place it must be fed with good food for some time (*e.g.*, breast milk of good quality), for a period of, say, two months. And thirdly, it must be then subjected to severe deprivation of the good food, and the substitution for it of materials altogether unsuitable, and incapable of providing the necessary stimulus.

Having briefly summarised the means by which the atrophied infant is produced, I pass to the treatment of the condition.

TREATMENT.

In the first place, it is important above all things to keep the baby warm, and by warmth I do not mean hot water bottles. They are very valuable in assisting to keep the infant warm, but there is only one healthy means of ensuring sufficient heat, and that is keeping in the heat which the baby manufactures itself. Cold feet are a common symptom, and a very useful means of saving the baby from the loss of heat at the extremities is to wrap them in cotton wool well up to the knees. Take a square foot of cotton wool, completely envelop the foot and leg below the knee—covering this, if necessary, with jaconet. In some cases, when all methods have failed, this will succeed, because it provides the insulation which pre-

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