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PROCEEDINGS OF SECTIONS.

ON DEFECTIVE LACTATION, ITS CAUSES, AND HOW FAR IT MAY BE INFLUENCED BY DRUGS.

Read in the Section of Obstetric Medicine.

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In some papers published in the *Practitioner* in 1881, I attempted to throw some light on the influence exercised by drugs on the milk of mothers and nurses, taking, at the same time, a general survey of the whole question of lactation.

It would be impossible, in a short paper, to enter into details of my experiments, I must, therefore, be content to lay before you the conclusions at which I arrived. This I do in the hope that they may be corrected, if they be proved wrong; and that the riper experience of others may throw additional light upon a subject which I deem to be even of national importance.

I shall formulate a number of general principles, as you will thus be in a better position to discuss my views.

1. All therapeutical agents intended to act on the mammary gland must first enter the blood, or be capable of stimulating the blood-supply in the mammary apparatus. This principle follows from what we know of the processes involved in the making of milk, and depends on the general principle that nutrition is dependent on blood-supply.

2. All the drugs derived from the families Liliaceæ, Cruciferae, Solanaceæ, Umbelliferae, etc., enter the blood and impregnate the milk, so that poisons in any of these classes must be administered with caution to the mother or nurse, lest the nursing may be injured. I have furnished instances, as dill, aniseed, and conium, to prove this.

3. There is no true galactagogue in the sense in which it is understood. The nearest approach to this is to be found in jaborandi; but this drug is not persistent in its action, as it only temporarily affects the mammary secretion.

4. There is an antagalactagogue, belladonna.

5. In inaction of the mamma, the milk may be increased and influenced by medicines.

6. The salts of milk may be improved by the administration of medicines.

7. Various physiological actions—purgative, alterative, diuretic, etc.—may be produced in the child by the administration of drugs to the mother.

8. If we are to expect any improvement in milk-secreting power, both as to quantity and quality, we must look to diet and hygiene for the attainment of that object.

I shall next briefly summarise some of the causes why lactation is defective.

1. It may be defective from mechanical causes: (a) through non-development of the lactiferous tubes; (b) through non-development of the caecal terminations of the ducts; (c) through non-perfection of epithelium. These are conditions which preclude treatment. It may also be defective from a plethoric state of the body; this is a condition strictly amenable to treatment. A carefully regulated diet, avoidance of stimulants, with milk as a leading article, plain but nutritious food, and the occasional administration of castor-oil, will soon remove the obstruction.

2. There is another condition—viz., torpor of the mamma—when treatment will be beneficial. The inactivity of the secretory apparatus may be overcome by the application of the electric current several times daily, in succession, for fifteen to twenty minutes at a time, or by irritation of the nipple, warm poultices, and the breast-pump.

3. The commonest cause of defective lactation is anæmia. This anæmic condition is intimately associated with general degeneracy, so that the subject of defective lactation is only part of a more general question.

We cannot expect much benefit from the therapeutic influence of drugs upon a degenerate race of mothers. We must look deeper, and go back to the initial point from which the mischief springs. This is readily to be found in the departure from a sounder and more nutritious fare, in the neglect of hygienic rules, and violation

of those great natural laws which bind all creation, by the men and women of the present generation. We have every indication of degeneration in our large towns and cities. They are derived from the numerous advertisements of the hundred and one patent foods for children, of restoratives and tonics for adults, of hair-restoring articles, of magnetic and electrical contrivances, of mechanical supports specially devised for the use of the female sex. These advertisements and instruments are the superficial indications of degeneracy.

When we come to consider the food of the factory-operative, we can readily understand why the milk-supply is defective. The operative artisan's or labourer's wife lives chiefly on slops, as weak tea and freshly baked cakes, by means of which her digestive functions are injured, and the power of assimilating better nitrogenised food is destroyed. Milk is seldom used, except to colour tea; leguminous plants and other vegetables, except potatoes, are looked upon with contempt. You can tell by their teeth that their diet is defective; even the number of dentists in our large towns are an indication of this imperfection. When, added to such a diet, we have badly ventilated houses, impure air, we need not wonder at the anæmic stunted appearance of a large number of women of this class, or at the large number who cannot suckle, or who produce milk, which is not sufficient to maintain the life of their children, being deficient in nitrogenous or carbonaceous products. Their diet is barely sufficient to make an imperfect kind of bone, muscle, nervous structure, or blood, so that, when the blood has discharged its several missions, there is little left for any supplemental wave; and thus we find that menstruation is imperfectly carried out, that when conception takes place the foetus is but badly nourished, and as a result we have many delicate children, many imbeciles and insane, and an appalling infant-mortality.

If any further evidence as to degeneracy be desirable, it is forthcoming. Every observer may note in the street and the workshop the general stoop of our town-population, their narrow flattened chests, bent spines, unequal shoulders, and other evidences of defective diet and impaired nutrition. Dr. Roth has brought forward some very strong evidence on the progressive degeneration of the physique of the population in Great Britain. He tells us that, of 1,600 recruits, after having accepted the shilling, 400 were rejected because they suffered from eye-disease, small malformed chest, curvature of spine, varicose veins, varicocele, muscular tenuity, and other complaints. Of 5,567 boys, 4,410 were rejected; they were under standard of chest-width, and under standard of weight (Dr. Ord's reports).

Dr. Ferguson has produced some evidence regarding the steady degeneracy of the factory-population, and of the yearly increasing number of children unfit for work. The result of Dr. Ferguson's, and subsequently Dr. Roberts's reports, may thus be summarised. 1. Factory-children have a disposition to flat feet, and to a relaxed state of the ligaments of the knee and elbow-joints. 2. They do not compare favourably with agricultural children. 3. They are short of stature; they produce the impression of having bones too old for their heads and ages. 4. They have a general disposition to knock-knees. 5. Many have "old scars in the neck," considered sequelæ of eruptive fevers. 6. In a large majority, the gums are red and spongy. 7. The development and condition of the teeth are very unsatisfactory: (a) they have a bad colour: (b) a bad shape, and are irregular; (c) the crowns of the teeth are contracted, with serrated edges and deep perpendicular grooves, as if a file had been drawn across them; (d) caries exists very often, usually in one of these grooves. The state of the teeth proves some fault in the health, and inattention during the early stages of the development of the children.

The prevalence of deformities amongst young girls applying for work at a large manufactory is thus described by the proprietor of an establishment in Nelson Street, Liverpool. "It is most distressing to stand at our counter on a Monday morning and see the number of little girls deformed in their persons by being employed in nursing. I can pick them out in a moment. One shoulder is lower than the other; the neck awry; shuffling, wobbling gait." That very observant traveller and philosopher, Taine, has left us a very unflattering but true description of what he observed in the men and women in large centres like London and Liverpool. He tells us that one type stands out the most truly English, the most striking to a foreigner; and that this may be observed amongst the business-men who come to London by train. Their drawn features, pale faces, steady, preoccupied eyes, contracted mouths, reveal that the men are worn out and hardened by too much work. This is especially visible in workmen, but is still more visible in workwomen

of the lower orders. He says: "Many are thin and consumptive; their eyes hollow; their nose sharp; their skin streaked with red patches. They have suffered too much; have had too many children; have a washed out, or oppressed, or submissive, or stoically impassive air. We feel that they have endured much, and can endure still more. Even in the middle and upper classes, this patience and sad hardening are frequent. We think, when we see them, of those poor beasts of burden deformed by the harness, which remain motionless under the falling rain, without thinking of shelter. Verily, the battle of life is harsher and more observable here than elsewhere; whoever gives way falls. Beneath the rigour of climate and competition, amidst the strife of industry, the weak perish or are degenerated.....Hence those shameful quarters of London, Liverpool, all the great towns; those spectres in tatters, gloomy or drunk, who crowd the dram-shops, who fill the streets with their dirty linen and their rags hung out on ropes, who lie on a soot-heap amidst troops of young children; horrible shoals, whither descend all whom their wounded, idle, or feeble arms could not keep on the surface of the great stream. The chances of life are tragic here, and the punishment of improvidence cruel."

It is pleasant to turn from this gloomy and depressing description of one section of society to another class, viz., the agricultural. Women living in agricultural districts produce milk good in quantity and quality on a diet assimilating, to a certain extent, to that of the graminivora and herbivora. The country-bred mother lives on plain homely fare; good well baked bread, made from pure flour; good milk, vegetables in abundance, such as turnips, carrots, cauliflower, leguminous seeds, peas, beans, lentils; and she has thus vegetable fibrine, and albumen, starch and gluten, and salts in abundance, from which to elaborate the precious juice so important to her offspring. She has, above all, plenty of fresh air and exercise. Though her fare is simple, you may see, by her appearance, that it is sufficient for the building-up of a healthy organism; her cheek is ruddy and brown, her muscles are developed and strong, her bones well knit and large, her size is proportionate, and she is not the stunted, pallid, weak, anæmic mother, familiar to those who practise in large towns. If you want a good indication as to her health, look at those great indices, the teeth, and you will find them, if not pearly and white, certainly perfect and sound.

Though on this plain fare she eats less than men under similar conditions, she has a reserve fund on which to draw, not only during the time of lactation, but for her menstrual periods, and for the purposes of conception, when an additional call is made upon her by the requirements of fetal life.

Meat rarely enters into her diet. We need not wonder at the result obtained by almost a strictly vegetable diet, if we remember what chemical research has told us about the constituents of vegetables.

We have here an illustration of how much can be done by diet, supplemented, it is true, by other agencies, a healthier and sounder mode of living, so that, better than any dependence on drugs to remedy defective lactation must be a reformation based upon conformity with those great laws upon which animated and inanimated nature thrives.

It is useless to point out an evil without suggesting a remedy; and, in view of the existing evil of defective lactation having its primary cause in fathers and mothers, I must point out the means of improving their condition.

There are indications that we are recognising the condition of our working-classes, evidenced by the health-lectures freely and generously given to the people by members of our profession; by the opening of cookery-classes, and by the extension of physical education. An active sanitary crusade has begun, into which a number of earnest philanthropists have thrown their souls; so that we may look more hopefully to the future, especially as this is supplemented by a national system of mental and physical training.

Physical education will do much. It aims at the root, by commencing with our young growing population, by proposing the teaching of the elementary principles of anatomy, physiology, and hygiene proper, in her schools, and by adding to this knowledge the physical exercises which will develop the muscular system of our boys and girls.

We may reasonably expect to hear, in the future, less about women who cannot suckle their own children, or who yield such poor milk that the child does not thrive on it; less of infantile diarrhoea and marasmus, less of patent foods; for, when we have produced a higher physical development, the mother herself will be capable of nursing her offspring.

There is one great agency to which I look hopefully, as it is a

practical method of counteracting the great evil, intemperance, so detrimental to our women. The cocoa-house movement should become a great factor in the elevation of our national character, and the improvement of the physical condition of our population. It must tend to promote habits of sobriety amongst the people, and must prevent some of the waste of wages at present diverted from proper food-supply, and hitherto expended upon alcoholic products.

If the programme be carried out in its integrity, the working classes, male and female, will have light, airy, cheerful rooms opened to them where they can obtain coffee, cocoa, tea, milk, soups, meat, vegetables, good dinners, at cheap, though fairly remunerative prices. Thus, a certain amount of money will be spent upon true articles of food, the workwomen and female operatives will at a moment's notice to obtain some nourishing food to support them during their work, where previously they have resorted to the public-house for a stimulus. The ultimate advantages to be derived from placing at the convenience of our female labouring population refreshment-houses of this class must be of necessity an improvement in their moral condition.

This social revolution, which in the metropolis has received a powerful impetus from the medical profession, and particularly from Mr. Ernest Hart, must ultimately be extended to all our large towns and cities, where it should meet with equal support from members of the medical profession.

It will be asked, is lactation equally defective amongst the higher classes? Are they equally unable to suckle their children? Are they ignorant on the great subject of hygiene? Do their children suffer from the manifold evils which affect the lower strata of society? Setting aside the large number who will not leave the luxury of their lives, fashionable amusements and the rest, to perform that duty which every conscientious mother should fulfil, there is also a larger class who are not able to produce milk. This no doubt arises from a certain high pressure under which they live, from a highly artificial mode of life, the product of modern civilisation. Their diet is not conducive to produce healthy blood, and we find anæmia, hysteria, nervous disorders, insanity, as a result; so that not only are they unable to reproduce healthy structure for the waste going on in their own bodies, but they are still more unable to furnish a supplemented wane of nutrition required by the demands of menstruation, conception, pregnancy, and lactation. Every London physician can pick from his note-book numerous cases of young ladies, who have no useful occupation or amusements, whose bodily health and moral nature are perverted by the atmosphere in which they live, and whose delicacy is systematically fostered by their own mothers; and who thus become totally unfit for the position of mothers. Every accoucheur can tell us of the infants produced, of the care which has to be bestowed to rear them; so that physical education must not be confined to the lower classes.

Amidst the highest and the lowest strata, there is a medium: the great middle class. It is amongst this class I find the best mothers, and the least amount of degeneracy. This stratum is, no doubt, the back-bone of the country, from which is produced both the physical and intellectual material from which our great men are derived. The homely life, the domestic virtues, of this class are great factors in a nation's welfare.

In accordance with the wise ordinances of nature, the female has been endowed with highly complex organs for the reproduction and nourishment of our race. Woman's mission, if special organs be any guide, must ever be regarded in its association with motherhood, as purpose seems thereby fulfilled.

For the complete accomplishment of maternity, important physiological changes, evolutionary and nutritive, have to be undergone. Facts demonstrate that the forces tending to reproduction are weakened, that the reserve or supplementary materials from which the forces are drawn are not sufficient to meet the drain produced by pregnancy and lactation; or, in other words, that our feminine stock is not improving. Heredity steps in, and perpetuates or intensifies the evil; so that dangers to the race, affecting every stratum of it, are to be apprehended.

To be forewarned is to be forearmed; to recognise an evil is the first step to its removal. These observations will not be in vain if they lead to further discussion and ventilation of the great questions which, I believe, underlie the subject of suppressed or defective lactation in the women of our generation. These conclusions have been purely brought about by my attempt to estimate the therapeutical influence of drugs, during lactation, on either nurse or nursing.