Lamellar cataract and rickets / by E. Treacher Collins.

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Lamellar cataract and rickets.

By E. Treacher Collins.

Davidson and Horner,* of Zurich, in 1865 first originated the idea that lamellar cataract was the result of rickets. Their views have been widely accepted on the Continent, but not so in this country; none of the text-books by the following authors make any mention of rickets in speaking of this form of cataract: Berry, Carter and Frost, Juler, Macnamara, Lawson, Nettleship, Power, Swanzy, Soelberg Wells.

The supposed ætiological relation of rickets to lamellar cataract is well summed up in the following passage from the American translation of Fuchs' 'Text-book on Diseases of the eye:'—"Lamellar cataract almost always affects both eyes. Its time of origin falls within the first years of life. It is found, above all, in those children who have suffered from convulsions (Arlt). Such convulsions are mostly caused by rickets, and especially by the rachitic changes in the skull (craniotabes). The teeth at the same time are irregularly formed, often being represented simply by cubical or irregular stumps, which are covered unevenly by enamel, or in places are entirely denuded (rachitic teeth). Lamellar cataract, therefore, stands in ætiological connection with rickets (Horner). Inheritance of lamellar cataract is a not infrequent occurrence."

Contenting myself with the above quotation, I will not further enter into all the arguments which have up to now been brought forward, for and against, the ætio-

* "Zur Lehre vom Schichtstaar," 'Inaug.-Dissert.,' Zurich, 1865.

logical relation between rickets and lamellar cataract, but will at once proceed to the new evidence I have to bring before you this evening.

It occurred to me that much might be learnt by an inquiry into the relative frequency of lamellar cataract and rickets in our Australian colonies, because I was told that rickets was much less frequent and much less severe there than in the mother country. With this object in view I wrote to several friends in Australia on the subject, and I wish to express my great indebtedness to Drs. Barrett and Symons for collecting for me the valuable information I have now to lay before you, and also to the other gentlemen I shall mention in the course of the paper.

Dr. Barrett sends me the following from Melbourne:

Report on the character and distribution of rickets in Victoria (by W. Snowball, M.B., Hon. Med. Officer to the Children's Hospital, Melbourne).—Ten years ago rickets, even in its slightest manifestations, was extremely rare amongst the out-patients at the Melbourne Children's Hospital. At the same time the proportion of those affected by constitutional disorders, notably congenital syphilis and tubercular troubles, was very great.

During the last two years there has been an extraordinary increase in the number of rachitic troubles of every kind. Even the more serious and grave condition of scurvy rickets, in place of being a clinical curiosity, is now comparatively common.

So sudden an increase in these cases must be due to an equally sudden alteration in the surroundings of the population, and this alteration may be demonstrated by a brief review of the social change which of late years has taken place in the suburbs and city proper of Melbourne. Five years ago, during a period of great commercial prosperity, there was an extraordinary influx of population into Melbourne. Houses were run up in all directions, hygienic measures were totally neglected, as has been shown by the outbreak of zymotic diseases

in different parts. The inevitable collapse came, perhaps more suddenly than usual, and families were thrown out of work; houses are now deserted, people are herded together, three or four families occupy one house in order to save rent. In many cases the mother of a suckling child has had to become a worker, and the child has been unseasonably bottle-fed.

The difficulty of obtaining and keeping fresh milk in our climate has naturally turned the attention of mothers to the various artificial food preparations, the cheaper ones of course obtaining now the preference. No doubt these conditions of artificial feeding existed to some extent before, but in prosperous times bottle-fed children of even the poorer parents received important additions to their diet in the shape of butter and little fresh food delicacies, which were then plentiful in almost all households, but are now lacking.

The drainage of Melbourne, an open system and very defective, has gradually been proving a source of danger, and during the stress of an acute influx of population was found to be totally inadequate, so that, to (1) dietetic mismanagement, (2) defective hygiene has added its factor in the present increase of rickets in Melbourne. Regarding the form of rickets met with here, as compared with what I have seen in England, it may be said that we rarely get the deformed limbs and distortions so common there.

The following would be roughly an outline of an ordinary case met with here:—A bottle-fed baby, probably on condensed milk and thin maizena, ten or twelve months old, no teeth, wasted limbs, dyspeptic troubles, distinctly beaded ribs, sweating head, enlargement and tenderness of the epiphyses of the long bones, is brought up for treatment because the mother has been wearied out with its constant fretfulness and evident pain when handled. One manifestation of rickets so common in England, viz. laryngismus stridulus, is almost unknown here.

Statement concerning the prevalence of rickets in Victoria (by JEFFREY WOOD, M.D., Hon. Medical Officer of the Children's Hospital, Melbourne).—In reference to your question concerning the existence of rickets in Victoria, the following sums up my experience of six years in the out-patient department of the Melbourne Hospital for Sick Children.

Rachitis exists in Victoria to a large extent. It differs from the same disease in England and Scotland in that the bony deformities in the shape of bowed legs and arms are not seen to any extent. Thus, in an attendance of 1000 out-patients, we would only see four or five cases of bowed legs; whilst rachitis in its milder forms, such as sweating head, beaded ribs, and slightly enlarged epiphyses, is a common complaint, and probably 100 such cases would be treated in the 1000 attendances. This disease is seen in three varieties.

1st. In the bottle-fed infants; and from my experience I am inclined to say that a deficiency of fat in the food is the chief factor in its causation.

2nd. In breast-fed infants who are kept on the breast for any length of time after the eleventh month.

3rd. In congenital syphilis, where the swollen tissues in the nose lead to difficulty in suckling.

The reason that bony deformities are not common in this colony is, I think, due to the fact that the lower classes have a much more liberal scale of diet than is met with amongst the labouring classes of the old country; and consequently when the child is old enough to help itself from the table, and so become emancipated from its mother's erroneous ideas of infant feeding, the symptoms of rickets rapidly pass away.

Artificial foods and condensed milk seem to be the two classes of food which more than anything else cause rickets in this colony. I have seen several cases of scurvy rickets during the last twelve months, due in most cases to the use of one of the artificial foods without fresh milk.

Respecting the frequency of lamellar cataract, Dr. A. L. Kenny has not met with one case during an experience of two and a quarter years at the Victoria Eye and Ear Hospital, and five years in practice.

Mr. J. T. Rudall, F.R.C.S.Eng., finds that in his experience lamellar cataract is an unusual affection; so, indeed, is any form of cataract (except traumatic) in infants or young subjects.

Dr. J. Jackson, who has had an experience extending over twenty years, has not seen a case of lamellar cataract in Victoria or South Australia, either in hospital or private practice.

Dr. J. W. Barrett has seen one case of lamellar cataract which had been operated on by the late Dr. Bowen; whether the patient was a native or a colonist he is unable to state.

From a perusal of the foregoing reports it will be seen that rickets until recently was a comparatively rare disease in Victoria; that it is more common now, but that the severity of the affection is much less than in the old world.

From the foregoing reports it will be noted that in Victoria lamellar cataract is an exceedingly rare disease. Whether it will become more plentiful with an increasing amount of rickets remains to be ascertained.

Dr. Symons writes to me from Adelaide: "There is no doubt as to the infrequency of rickets, and also of lamellar cataract here. It is very difficult to get statistics. I have looked into several of the reports of the Melbourne, Sydney, Brisbane, and Hobart hospitals, and find rickets very rare. The cataracts are all enumerated together, there being no division embracing lamellar cataract. In the Adelaide Hospital, with an average of over 2000 new cases annually, there have only been three cases of rickets and three of lamellar cataract between now and the year 1877. In private practice I have had lamellar cataract in a proportion of one in 2000 cases. I cannot tell you if these cases were imported into South Australia or not."

At Dr. Symons' request the house surgeon of the Adelaide Children's Hospital, Dr. H. A. Powell, looked over the notes of the cases treated at that institution during the last twelve years, but found no record of rickets.

Dr. T. K. Hamilton, of Adelaide, writes: "I have records of about 4500 eye cases taken during the past five and a half years in my practice here, and amongst them I can find only two cases of lamellar cataract recorded, in both of which the individual affected was born in England, so my Australian cases of this disease are *nil*. I have only seen one case of what I call rickets in this colony."

From Sydney Dr. Maher writes that his "impression is that lamellar cataract is of much rarer occurrence in New South Wales than in England." "Since I have been in practice in Sydney I have not seen more than ten cases; of these four occurred in one family, the mother and three of her four children had lamellar cataract. In another family the mother and her only child were both affected."

Dr. Pockley, of the same town, in a letter to Dr. Barrett says, "I am very sorry to say that the records of the cases that have been seen at the Prince Alfred Hospital are of no use, as sufficient particulars have not been noted, and in many summaries the lamellar cataracts are included with other varieties. In regard to rickets, however, this disease is not at all uncommon here. My friend and colleague Dr. Chible, who has had a long experience at the Prince Alfred and the Children's Hospitals, tells me that he believes rickets to be quite as common here in proportion to the population as it is in English towns."

I further asked Dr. Barrett to ascertain for me whether or not the imperfect development of the enamel of the teeth so frequently associated with lamellar cataract was as commonly met with in Australia as in this country. He kindly communicated with some of the leading dentists of Melbourne on the matter. Mr. C. F. Fyffe says, "Such cases are fortunately rare in Victoria, and I have seen very few." Mr. E. C. Carter writes, "Regarding

the frequency with which this class of teeth are met with in Melbourne, I may say that I have gone carefully through my books, and, as far as I can judge, I should say that the number is about three per thousand. Regarding the birthplace of the subjects, I may say that in every case, so far as I have made inquiries, the subject has been born in a foreign country, and they generally say that they were delicate as children, but never in all my practice do I remember to have come across a case of honeycomb teeth in a colonial-born subject." Another gentleman states that "he has frequently met with such teeth," but as he goes on to add "especially in the bicuspid region of the lower maxilla," and as Mr. Hutchinson, who was one of the first to describe them, says that "with but very few exceptions indeed the bicuspids escape entirely," I think he must be referring to some other condition.

During a recent visit I paid to Persia I particularly directed my attention to the frequency of these two diseases, rickets and lamellar cataract. I inquired of the medical men I met, who had had a European education, as to rickets, and the following assured me that it was very infrequent: Dr. Scully of Shiraz, Dr. Hussein Khan of Ispahan, Dr. Aganoor of Julfa, and Dr. Odling of Teheran. Certainly the conditions of life there are not such as are usually considered likely to favour its development. The climate is an exceedingly dry one, for a great part of the year there is uninterrupted sunshine, and life is to a great extent in the open air. The rooms of the rich are lofty, and those of the poor are always well ventilated, for when they have doors in the doorways they are sure not to fit. No such things are used as complicated artificial foods for infants, the mothers suckle their children, often, I must state, unduly long,—for the same belief exists in that country as in this, that while suckling the possibility of again becoming pregnant is avoided. During the four months I was in Persia I saw an immense number of patients suffering with diseases of the eye, but I only met with one case of lamellar cataract; in it the layer of

opacity was very thin,—not, indeed, sufficiently dense to necessitate an operation.

To sum up, then, the evidence I have collected goes to show that in Adelaide rickets is a rare disease, and lamellar cataract very infrequent. In Melbourne rickets was until recently comparatively rare, that it is more common now, but that the severity of the affection is much less than in the old world; lamellar cataract is exceedingly rare, and the honeycombed condition of the enamel of the teeth is not often met with.

In Sydney, the oldest city in Australia, rickets is said to be as common as in England, but I have no statement as to its comparative severity: lamellar cataract is less frequent than in this country. In Persia rickets and lamellar cataract are both very rare.

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