Lesson of the Week

Tonsillar enlargement and failure to thrive

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Severe upper airways obstruction in young children is being increasingly recognised as a reversible cause of failure to thrive¹ and cor pulmonale.² Its association with sleep apnoea, restlessness, and daytime somnolence plus persistent runny nose, noisy breathing, and snoring should lead to early recognition and diagnosis and the prevention of potentially damaging sequelae.

Case reports

CASE 1

A girl aged 3 years 2 months had a four month history of anorexia, weight loss, lethargy, daytime somnolence, and a persistent green nasal discharge. Her breathing was noisy, and she snored heavily, was a restless sleeper, and awoke repeatedly. From birth her weight had been between the third and 10th centiles, and development was normal. On examination her weight had

FIG 1—Weight before and after adenotonsillectomy in case 1.

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Early adenotonsillectomy in children with failure to thrive, enlarged tonsils, and associated obstructive apnoea will lead to dramatic improvement in weight gain and general wellbeing

FIG 2—Weight before and after adenotonsillectomy in case 2.

fallen below the third centile, her height was on the 25th centile, and she was an obligate mouth breather. Her tonsils were enlarged, narrowing the laryngeal orifice, and there was associated cervical adenopathy.

During quiet sleep she lay still, breathing evenly, and had an oxygen saturation of 98%. In active sleep she snored heavily, had mild expiratory intercostal recession, and developed apnoeic episodes of maximum duration 15 seconds, during which the oxygen saturation fell to 85%. After removal of her tonsils and adenoids all her symptoms resolved immediately, and within three months she had gained 2 kg in body weight (fig 1).

CASE 2

A 23 month old boy of birth weight 3200 g showed poor growth and weight gain over a six month period; he was otherwise well apart from repeated upper respiratory infections and was normally developed and active. For six months his weight was static; over the subsequent two months he lost weight, dropping from between the third and 10th centiles to well below the third, and his height showed a marginal increase, although remaining below the third centile. After noisy breathing was noticed during an outpatient visit his mother disclosed his night time snoring, restlessness and wakefulness, and periods of "stopping breathing" during quiet sleep. He had also become tired and lethargic during the daytime with sleepiness in the afternoon.

His tonsils were greatly enlarged, partly obstructing the upper airway; cervical nodes were also enlarged. After adenotonsillectomy he dramatically improved; his snoring stopped, night sleep was peaceful, and he became lively and active during the day and did not need his afternoon nap. Within two months both his height and weight had increased. He gained 1.5 kg, crossing from below the third centile to between the third and 10th centiles (fig 2).

Discussion

The disappearance of noisy breathing, snoring, and daytime somnolence and the dramatic increase in weight and height after operation show the degree to which overall wellbeing is affected by partial and intermittent upper airways obstruction, leaving no doubt about the wisdom of adenotonsillectomy, an uncommon operation in this age group. Despite the severity of the symptoms seen in these cases, however, and the frequency with which both failure to thrive and upper respiratory infections are found in young children tonsillar enlargement is rarely diagnosed as a cause of poor

weight gain or growth in Britain,³ although it is more commonly noted in the United States.⁴ Lack of clinical awareness and a reluctance to subject young children to tonsillectomy could account for this apparent difference and partly explain the late diagnosis in case 2.

These two cases show clearly how enlargement of the tonsils may cause failure to thrive; this is rapidly reversed after adenotonsillectomy.

References

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Portraits from Memory

19—Dr John Smith (1892-1976)

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To himself John Smith was, and remained, just plain John Smith. To the many who profited from his incredible industry and

penetrating insights into the problems of microbiology and infectious diseases he was a centre of excellence in himself, though all his work was done in the modest laboratory of a small fever hospital. In 1919, when he gained his DPH, Professor Matthew Hay of Aberdeen University had him appointed as assistant medical officer of health with special duties in connection with the laboratory diagnosis of infectious diseases—part time laboratory work—with the rest of

his time being devoted to clinical tuberculosis. The DPH course of those days included much good practical bacteriology, but Smith literally taught himself all the extras that his work required him to master. The laboratory was opened in 1920 and soon afterwards John Smith was made its director but he never gave up his interest in clinical problems and kept a close watch on all new admissions to the hospital. It was not long before the usefulness of his service spread outwards and attracted visits not only from general practitioners in the city and

county of Aberdeen but also from consultants at the Aberdeen Royal Infirmary, which, until 1938, was not served by the university department of bacteriology.

Plain but not obvious

In addition to teaching himself bacteriology, John Smith gave great thought to developing a really useful postal service with many exceptional features to overcome the inherent disadvantages of any such system. In the event Smith provided bacteriological services for the city of Aberdeen and for the counties of Banff, Kincardine, Nairn, Elgin and Moray, and—from 1934—also for the county of Aberdeen. His laboratory was never without visitors seeking his advice as well as an account and interpretation of his laboratory findings. In 1938, when the university department of bacteriology at last became responsible for the Royal Infirmary, I made a point of visiting John Smith specifically for advice on the technical problems arising from the laboratory diagnosis of leptospirosis. At that time he had recently diagnosed it as a problem among the fish workers at Aberdeen. John Smith and Stanley Davidson together worked out how the infection was acquired and spread, and how to prevent it. Thanks entirely to Davidson's importunity a joint paper was published, despite Smith's protestations that it was "all plain and must be obvious to everyone."

My efforts at setting up reliable laboratory diagnostic methods for leptospirosis ran into so many technical problems that I had no hesitation in seeking John Smith's help. He was delighted to reveal all the necessary tricks of the trade to a junior member of the rival establishment and indeed was so helpful and friendly that I never hesitated to seek his help with other problems. The help was always freely given. He had met and solved all problems with the leptospires, and took it for granted that the answers must surely be obvious to me. They were not. At that time a live culture was used as

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