ENURESIS IN HOSPITAL PRACTICE.

BY

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Enuresis in the children of families compelled by financial circumstances to live in small crowded homes, presents a problem of both clinical and sociological interest. Apart from the mental suffering of the patient, the discomfort imposed on those who share a bed with him, the mother's difficulty in keeping clothes and bedding clean with her inadequate facilities, and the disturbance caused in school to the teacher and the class, are worthy of consideration. The unpopularity of such a child at home and at school, and the continued struggle of the mother and teacher to cope with this additional burden, cannot but produce an atmosphere of nervous tension which is detrimental to the child.

Five per cent. of the total number of children attending the Children's Outpatient section of the London Hospital in one year suffered from enuresis. A study of sixty cases was made to discover any common factor in its incidence, and to attempt to obtain a quicker response to treatment by simple psychological methods in conjunction with the use of belladonna, than is usually obtained with either form of treatment separately. All factors in the treatment were made as simple as possible to ensure their practicability in the homes of such patients. Owing to the relatively small number of cases in the series it is realized that the percentage quoted in the following paragraphs may be unduly high. Among these cases were 23 boys and 37 girls, whose ages at their first attendances were between 5 and 8 years in 56.6 per cent. of the total, that is, during the period of the second dentition as noted by Still¹ in 60 per cent. of his cases. Children over 9 years of age formed 15 per cent. of the series, and the remaining 28.4 per cent. were children between 3 and 5 years old.

In 41.6 per cent. of cases the enuresis dated from infancy, and in 58.4 per cent. the onset occurred after control of micturition had been established for periods varying from 1 month to 7 years. A family history of enuresis was found in 56.6 per cent., and in two cases it could be traced to the grandparents. Grover² in 1918 found a family history in 56 per cent. of a series of 200 cases. A rheumatic history was given in 13 per cent. of the total cases, as compared with 11 out of the 200 cases (5.5 per cent.) studied by Still. Griffith and Mitchell³ obtained such histories, and Holt⁴ noted the association of enuresis with chorea. Six cases dated from an attack of measles. Four cases originated in severe frights. One started after a fall from the deck of a steamer, and another after a fall into a barrel of tar. The third case was that of a child liable from infancy to attacks of asthma, who had a severe bicycle accident, after which the asthma entirely cleared up, but constant diurnal and nocturnal

enuresis developed. Ninety-five per cent. of all cases had a history of previous illness; measles in 88.3 per cent., and chicken-pox and whooping-cough in 30 per cent. and 23 per cent. of cases respectively.

The prominent symptoms in this series of cases were anorexia (58.3 per cent.), restless sleep, insomnia, night terrors or sleep walking (48.3 per cent.), constipation (33.3 per cent.) and headache (13.3 per cent.). Masturbation, deep sleep, diarrhoea and vomiting, in this order of frequency, were far less common. A complete physical examination was made of each child. In 48.3 per cent. of cases no abnormality of any kind was found, but the majority had varying degrees of general debility; 23.3 per cent. had enlarged tonsils and adenoids, 8.3 per cent. had threadworms, and a similar proportion had cervical adenitis. Dental caries and rickets each occurred in 3.3 per cent. of cases. Phimosis was present in only one case in the series. A routine examination of the urine was made in each case and the deposit examined. Crystals of calcium oxalate and of uric acid were found, but in the majority of cases no abnormality of any kind was detected.

The cases were classified as follows:—

Group I. Day only (5 per cent.).—Still gives 4 per cent. of his series as belonging to this group, Holt 1.5 per cent., and Ostheimer and Levi 2.2 per cent. In the present series all the patients in this group were girls of about 6 years of age. The enuresis occurred more than once daily, quite irregularly and with no definite relationship to falling asleep or to absorbing occupation in school or at play. No history of nocturnal enuresis was obtained. One case dated from infancy, the others were of eight months' duration only.

Group II. Night only (30 per cent.).—Holt's series includes 34 per cent. of cases in this group, Still finding 52 per cent. and Ostheimer and Levi 58.8 per cent. incident in their respective series. There were eight boys and ten girls in the present 30 per cent. of cases, eight of the children being troubled from infancy and the rest having the onset after control had been established for periods varying from one month to four years in duration. In two cases only was there abnormally deep sleep; the majority slept restlessly and with frequent night terrors.

Group III. Day and night (55 per cent.).—Holt's percentage in this group is 64 per cent., Still giving 55 per cent., and Ostheimer and Levi 39 per cent. In the present series there were eleven boys and twenty-two girls in this group. Enuresis occurred once by day and once by night in 54.6 per cent. of these children. In 30.3 per cent. it occurred more than once by day, and in 15.1 per cent. in this group it occurred more than once by night. In nearly two-thirds of these cases enuresis began after control of micturition had definitely been established.

Group IV. With incontinence of faeces (10 per cent.).—Incontinence of faeces, in addition to enuresis, was found in four boys and two girls, between the ages of six and ten years. In two instances both incontinence and enuresis dated from infancy, while the others started from two months to seven years after the establishment of control over the sphincters. Two boys had diurnal enuresis only. In one of them incontinence occurred two or three times

daily, while in the other it occurred once only; but in neither was there enuresis or incontinence by night. A third boy had nocturnal enuresis only, and incontinence of fæces once each night. The cases having diurnal and nocturnal enuresis had incontinence of fæces only by day. A family history of enuresis and incontinence was obtained, and two cases gave a definite rheumatic history. Anorexia, insomnia with night terrors, sleep walking, and headache were the symptoms discovered, and the only physical signs found were enlarged tonsils in two cases.

An attempt was made to estimate the temperament of each child and to discover the reaction of the child to the home, and his demeanour at school. 66 per cent. were nervously unstable children, but bright and responsive; 23·3 per cent. were shy, phlegmatic children making contact with them more difficult; 10 per cent. were unstable, unresponsive children, or of poor mental ability. Definite incompatibility with the home or the mother was found in 35 per cent. of all cases.

TREATMENT.

All factors in the treatment were made as simple as possible for the mentality of the child and mother, for the home conditions precluded many methods advised by authorities on the subject. Each case was approached by three ways—the child, the mother and the doctor—all leading to the restoration of the child's self-confidence and subsequent control of micturition.

The child was assured he was neither naughty nor dirty, and that he was certainly going to get well if he earnestly wished it; that his mother and the doctor were helping him, but that he was himself the most important factor and could best help himself by doing as they advised. School was excused children with diurnal enuresis.

The mother was assured that her home problems were understood, and her fears about the child allayed. The alliance between the child, mother and doctor was emphasized and a hopeful outlook taken, assuming that the following plan was carried out.

1. Regular weekly attendance for a considerable time and regular administration of the medicine.

2. Never allow the child to be worried, scolded or punished (owing to their known deleterious effect). Pleasure should be shown at each improvement.

3. *Diet.*—(To secure the best physiological conditions for the cessation of enuresis and as a suggestive agent.).

- (a) No tea, coffee, cocoa, soups, broths, or meat extracts (owing to their diuretic effects).

- (b) No more than four small teacups of milk, milk and water or water in twenty-four hours. (This is approximately 16 oz. and should meet physiological requirements.)

- (c) No drink after 5 p.m. Slices of lemon or orange may be sucked whenever the child is thirsty.

- (d) No salt fish or highly seasoned food (to prevent thirst).

(e) Avoid heavy puddings, many potatoes, etc. (to prevent the formation of big faecal masses in the rectum by night).

4. *Bed.*—(a) The child should go to bed early (adequate sleep being essential for these nervously unstable children). Sharing a room or bed, or sleeping in the living-room, often makes this difficult.

(b) The child should sleep on his side. A roller towel tied with a knot in the middle of the back should ensure this. Raising the foot of the bed for an indefinite period is not found practicable in crowded homes.

(c) Use light bedclothes and a hard mattress—alteration of either or both is often impossible in many of these families.

5. *Micturition.*—The child must pass water at regular intervals and at the same time each day, e.g., on waking, before meals, on going to bed and when the parents go to bed. The more elaborate methods of rousing the child by alarm clock at every hour, or once or twice during the night and early morning, are impracticable in the crowded homes of working people.

The doctor's share in the alliance consisted in the correction of any local irritation, e.g., urine, constipation, threadworms, the prescription of drugs, and also the cultivation of a friendly relationship with both child and mother.

(a) To record the number of dry days and nights for each week, praising both mother and child for any improvement and to encourage both of them to follow the suggested scheme closely.

(b) To obtain the co-operation of the school teacher in helping to restore the child's self-confidence by allowing unlimited opportunity for voluntary micturition in school hours, and by avoiding scolding or punishments.

(c) To offer the bribe of convalescence at the sea or country after six weeks' complete control. As the majority of children were debilitated this was in fact a necessity.

Fluid intake was increased gradually after complete freedom from enuresis had been obtained for a month.

Tincture of belladonna was given beginning with 5 min., t.d.s., and increasing by weekly increments of 5 min. up to 30 or 35 min., with ammonium bromide, 5 gr., t.d.s., increasing by 1 or 2 gr. each week up to 12 gr. Tincture of nux vomica in doses of 2 or 3 min. was sometimes added to the mixture. To improve the general health syrup ferri phos. co. and cod-liver oil and malt extract were given simultaneously. The dose of the belladonna and bromide mixture necessary to help the child to secure 7 dry days and 7 dry nights was maintained for a fortnight and then reduced by the same amounts as it had been increased; 5 grains of bismuth oxycarbonate with 1 minim of tincture of opium was given thrice daily before meals where incontinence of faeces occurred with enuresis.

After all belladonna had been stopped each child attended monthly for three months to ensure that no recurrence had occurred.

RESULTS.

Sixty-five per cent. of all cases were successfully cured on this plan, and 35 per cent. improved, attaining as much as a fortnight's freedom from enuresis

but owing to irregular attendance or to discontinuing attendance they have not definitely cleared up. One third of the successful cases had a whole dry month within two months of beginning treatment. The girls responded to treatment more quickly than the boys, and it has been ascertained that over a period of nine months all these children are still free from enuresis. The time taken to obtain this result was as follows :—

Group I.—The diurnal cases cleared up in six weeks from beginning treatment.

Group II.—Half the nocturnal cases cleared up six weeks after treatment began. The remainder constitute the bulk of those cases ceasing to attend, so of them no statement can be made.

Group III.—Complete recovery in the cases with enuresis day and night was sometimes delayed as long as the eighteenth week, but either day or night was free from enuresis within two months of beginning treatment. Day was dry before night in 72·7 per cent. of the cases in this group ; night before day in 12·1 per cent., while day and night cleared simultaneously in 15·1 per cent. of these cases.

Group IV.—In the cases with incontinence of fæces, control of fæces was established after the first week in two cases, the others varying in time up to the sixth week after treatment began. Enuresis ceased completely after the ninth week of treatment.

It was noticed that the weekly number of dry nights decreased after drinking extra fluid in two cases. Colds, threadworms, tonsillectomy, circumcision and an operation for crushed fingers seemed responsible for delayed response to treatment. Recurrence occurred in two cases—a girl after an attack of bronchitis and a boy after a fall from a height. Both, however, recovered and up to the present are free from enuresis. Enuresis ceased completely after tonsillectomy in one case, a second child obtained complete control of micturition immediately she was admitted to the wards with pneumonia, while kindly discipline of another type—the Boy Scout movement—apparently helped one boy to recover rapidly.

CONCLUSIONS.

In this series of cases the incidence of enuresis was greater among girls than boys and the majority of cases occurred after control of micturition had been established. A family history occurred in 56·6 per cent. of cases and the symptoms of nervous instability were alone prominent. Nearly 50 per cent. of these children had no physical abnormality and only one case of phimosis occurred. Group III in which enuresis occurred by day and night was the commonest type. The children were in most cases nervously unstable, highly strung individuals, abnormally sensitive to praise or blame, which would account for the relatively large proportion of cases in which incompatibility with the home was found.

All four groups of enuresis responded relatively quickly to the combination of simple suggestive measures with the giving of belladonna as has been done in this series. Reference to the notes of thirty cases distinct from this series

shows that when no definite insistence on simple psychological treatment was made in addition to the giving of adequate doses of belladonna, or small doses of belladonna were alone given, the children remained *in statu quo* for varying periods of one to twelve months.

Freidell⁶ states that of 39 cases of enuresis, 87 per cent. were successfully treated by psychic treatment of a hypodermic injection of sterile water, success or failure depending on the relative concentrations of the day and night urine, but all cases were treated by suggestion alone. In a busy outpatient department the time necessary to devote to purely psychological methods makes such treatment difficult to give.

In the present series of cases friendly co-operation between child, mother and doctor based on the scheme outlined above—a printed copy of which is given to each mother concerned—resulted in response from these children in a relatively short time. They ceased to be annoyances for whom little could be done until the age of puberty. Those who are familiar with the conditions of life of most hospital patients can gauge what this means to the mother and the family, as well as to the child himself at home and at school.

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