

## ORIGINAL ARTICLE

## Gratification disorder ("infantile masturbation"): a review

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**Background:** Little has been published on gratification disorder ("infantile masturbation") in early childhood.

**Aims:** To expand on the profile of patients diagnosed with this condition.

**Methods:** Retrospective case note review; Fraser of Allander Neurosciences Unit paediatric neurology outpatient department 1972–2002.

**Results:** Thirty one patients were diagnosed (11 males and 20 females). Twenty one were referred for evaluation of possible epileptic seizures or epilepsy. The median age at first symptoms was 10.5 months (range 3 months to 5 years 5 months). The median age at diagnosis was 24.5 months (range 5 months to 8 years). The median frequency of events was seven times per week, and the median length 2.5 minutes. Events occurred in any situation in 10 children, and in a car seat in 11. Types of behaviour manifested were dystonic posturing in 19, grunting in 10, rocking in 9, eidetic imagery in 7, and sweating in 6. Two children had been previously diagnosed as having definite epilepsy. In nine cases home video was invaluable in allowing confident diagnosis.

**Conclusion:** Gratification disorder, otherwise called infantile masturbation, is an important consideration in the differential diagnosis of epilepsy and other paroxysmal events in early childhood. Home video recording of events often prevents unnecessary investigations and treatments.

The term masturbation is derived from the Latin words *manus*, meaning "hand" and *stupratio*, meaning "defilement". One presumes historically therefore that it was a practice thought to be unclean. It is accepted now that masturbation is a normal part of human sexual behaviour.

There is little published on gratification disorder (masturbation) in early childhood. Masturbation, or self-stimulation of the genitalia is a common human behaviour, said to occur in 90–94% of males and 50–60% of females at some time in their lives.<sup>1</sup>

Paediatricians are in general aware of the fact that infantile and pre-adolescent masturbatory activity occurs, but are perhaps less aware of the spectrum of different behaviour patterns these children may display. Masturbatory activity in infants and young children is difficult to recognise because it often does not involve manual stimulation of the genitalia at all.<sup>4</sup>

Masturbatory behaviour has been mistaken for epilepsy,<sup>2</sup> abdominal pain,<sup>4,5</sup> and paroxysmal dystonia or dyskinesia.<sup>6</sup> Case reports have also highlighted that these children have many unwarranted investigations: blood analyses, metabolic screening, abdomen ultrasound screening, gastrointestinal radiography,<sup>2</sup> cerebrospinal fluid examination, skull x ray examination, brain scan,<sup>3</sup> pyelography, and cystoscopy-vaginoscopy-proctoscopy under general anaesthesia.<sup>4</sup> Treatment with antiepileptic medications has been given on several occasions.<sup>2,3,6</sup>

This study aims to highlight and expand on the profile of patients diagnosed with this condition.

## METHODS

Children were identified retrospectively from those referred to the Fraser of Allander Neurosciences Unit, a tertiary neurology referral centre covering primarily the West of Scotland, between the years 1972 and 2002. In the 30 year period studied a database was maintained for all children who were reviewed in the unit according to diagnosis. A retrospective case note study was carried out in those

children with the diagnostic labels of gratification disorder and/or infantile masturbation.

## RESULTS

Thirty one patients were studied (11 males and 20 females). Eighteen came from homes where the parents were married/co-habiting; in four cases there was a single parent. There was no social class bias. Significant past medical histories were one child each with reflex anoxic seizures, neonatal seizures (undiagnosed), and megalencephaly.

The most common reason for referral was for possible epileptic seizures in 21 children. Ninety percent of these were boys and 50% girls. Other reasons for referral were dystonia in one, abdominal pain in one, and diagnosed masturbation in one. In eight children no diagnosis of the nature of the events had been made before referral to the unit.

The age of first symptoms was variable. Fifteen children were aged less than 1 year when they first developed symptoms. The mean age of the first event was 12.5 months (median 10.5 months, range 2 months to 5 years 5 months). The age at diagnosis of gratification varied from 5 months to 8 years (mean 35 months, median 24.5 months). The range of delay to the time of the correct diagnosis was 1 month to 5 years 9 months (mean 16 months, median 11 months).

The frequency of events varied from 1/week to 12/day (mean of 16/week, median 7/week). The mean length of events was 9 minutes (median 2.5 minutes, range 30 seconds to 2 hours). There was no correlation between the frequency of events and their duration.

Events occurred in any situation in 10 children. The most common specific location was the car seat, occurring in 11 children. In five of the children, events were observed in relation to sleeping. Five patients were symptomatic when bored, three children when tired, two when in front of the television, and two in a baby walker. Events were also noticed in a high chair ( $n = 1$ ), lying on the floor, during nappy changing ( $n = 1$ ), or when the child was upset ( $n = 1$ ).

Behaviours during events included apparent dystonia in 19, grunting noises in 10, rocking in 9, assumed eidetic

imagery (“telly in the sky”) in 7, and sweating in 6. In four patients the events of gratification led to fatigue; in four children sleep was induced. One child each displayed cyanosis, lip smacking, staring, shaking, pallor, giggling, and appearing frightened.

Twelve children in our group had been investigated prior to the paediatric neurology referral and diagnosis: seven patients had a standard EEG; four patients had a prolonged EEG monitoring, one with video; two had a brain computed tomography scan; one had electrolytes and blood count measured; and one had a barium swallow and Ph study.

Two children had been given a firm diagnosis of epilepsy prior to referral. One of them had received carbamazepine for presumed temporal lobe epilepsy; the other notably had not been immunised against pertussis because of the presumed diagnosis of epilepsy, and subsequently developed the disease pertussis.

In nine cases home video recording was invaluable in allowing a confident diagnosis.

## DISCUSSION

Masturbation in children is commonly recognised to be a variant of normal behaviour.<sup>1</sup> Once the diagnosis is made and there are no suspicions of child sexual abuse requiring further investigation and management, reassurance seems to be the most effective management.<sup>7</sup> Parents prefer the term gratification (or even benign idiopathic infantile dyskinesia) to infantile masturbation as there is less social stigma attached to these terms.

The results of this study, the largest yet published, confirm the position that gratification is most commonly misdiagnosed as epilepsy as has been well discussed by previous authors with smaller series.<sup>3-4</sup> Dystonia and abdominal pains have also presented as the referral diagnosis. Fleisher and Morrison<sup>4</sup> and Couper and Huynh<sup>5</sup> have described very dramatic examples of masturbation mimicking abdominal pain in girls, where diagnostic assessment in one patient even included intravenous pyelography and cystoscopy-vaginoscopy-proctoscopy under general anaesthesia. Mink and Neil<sup>6</sup> have published a case of masturbation mimicking paroxysmal dystonia (periodic posturing) in a young girl. In our study only one child had been referred with a diagnosis of dystonia. That only one was referred with abdominal pain is not surprising for a paediatric neurology clinic setting.

Misdiagnosis seems to be more likely when direct stimulation of genitalia with the hands is absent, as when there is merely repeated adduction of the thighs, and also when the parents describe their child during the episode to be staring, shaking or “watching television in the sky” (so called eidetic imagery) and having un-vocalised speech with imaginary individuals,<sup>8</sup> and perhaps seem to twitch or move one or more limbs for several minutes at a time. The diagnosis of infantile masturbation is more difficult when the infant or young child seems unhappy during the rhythmic

movements. When there are repeated jerky spasms, there may be confusion with epileptic infantile spasms. It is for these reasons that gratification often leads to over-investigation,<sup>2,5,6</sup> and occasionally to medication, including with antiepileptic drugs. The administration of sodium valproate, ethosuximide, phenobarbitone, vigabatrin,<sup>2,3,6</sup> and ranitidine<sup>5</sup> has been described. In our study only one child with masturbation had been treated with carbamazepine before referral, although 69% of all the children were referred with “seizures”. It is also of note that no children given the diagnosis of gratification disorder have subsequently been found to have a diagnosis of epilepsy. As well as the considerable variation in the behavioural manifestations, it is notable that the events may be observed at any age in early childhood. There is even one published case of masturbation in utero.<sup>9</sup> In our study the earliest age of the first reported event was 2 months.

Careful interrogation appears to be one of the keys to diagnosis. One of the most important symptoms is that the child may be stopped during gratification if distracted and also shows anger and annoyance when interrupted.<sup>5</sup> Video recording of events has been documented to be of most help in understanding the nature of the episodes.<sup>5,6,10</sup> Certainly in our series this was the case in those children for whom we obtained home video recordings. We would therefore stress the importance of home video to prevent unnecessary investigation and treatment of these children.

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