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Somnambulism - a rare cause of a serious accident. Case report

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Abstract:

Somnambulism is usually seen as a mild state, associated with sleep disorders, excessive daytime sleepiness, tiredness, mental disorders and reduced quality of life. It is potentially a life-threatening condition.

A 21-year-old man was admitted after a fall from the balcony from the height of the first floor.

Key words: somnambulism, sleepwalking, accident during sleep walking

Introduction:

Somnambulism is a state of consciousness, in which the person affected by the illness is partially asleep and partially awake [1]. There is widespread public opinion that sleepwalkers are protected from injuries which is not true [2]. Accurate diagnosis is crucial for correct handling and accident prevention.

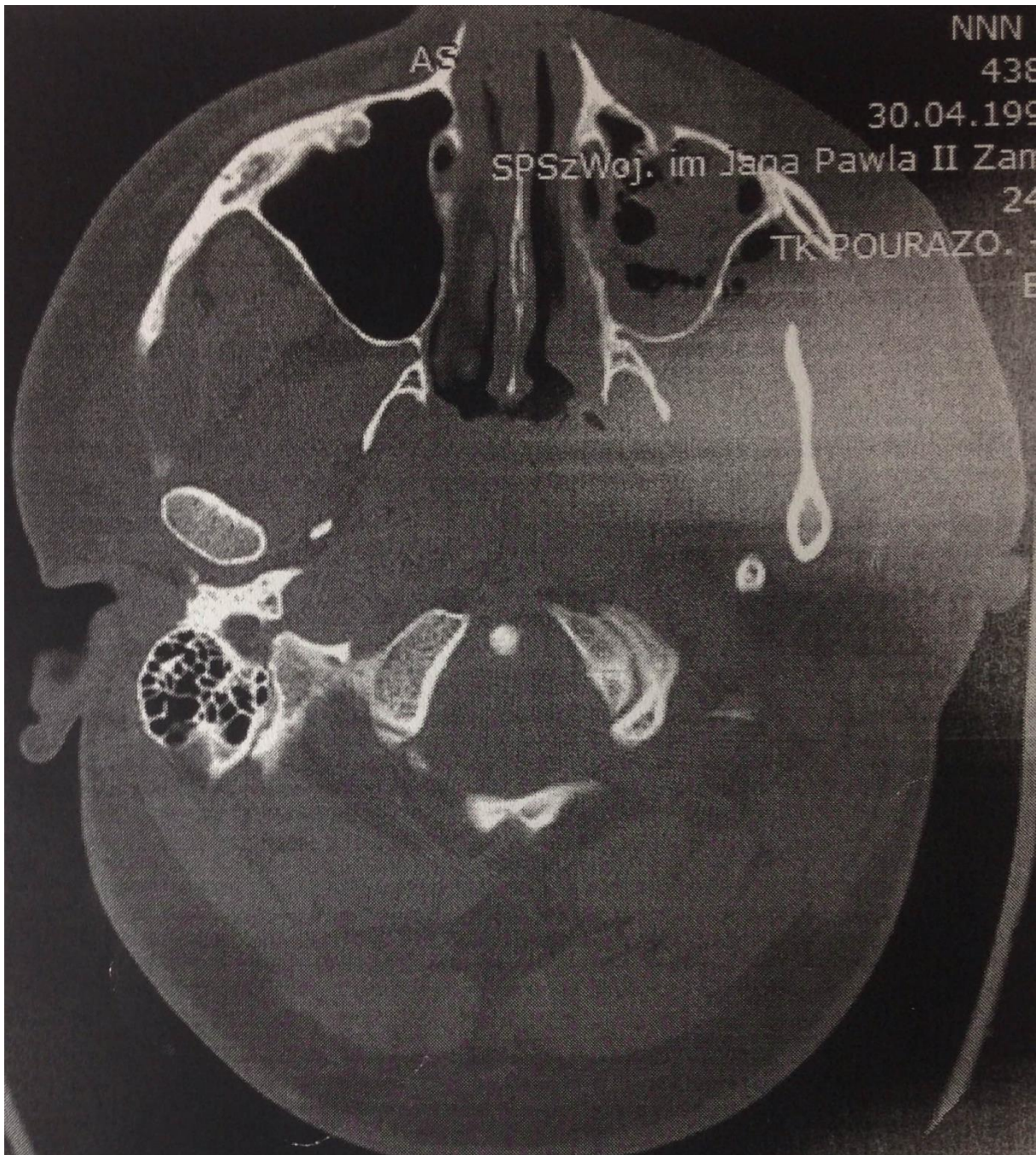
The traditional concept of somnambulism defines it as a disorder of sleep and wakefulness with coexisting abnormal sleep physiology and genetic predisposition [3]. Sleepwalking is more often related to children (5%) than adults (1.5%) [4]. The disease rarely starts in adulthood and it is associated with taking medicines and emerging neurodegenerative diseases. It is much more often associated with the patient since childhood, it is just as common in both sexes [5]. Somnambulism is several times more frequent among children of sleepwalkers [6]. Episodes of the disease usually appear after the sleep phase of REM[6]. After the episode, the patient shows complete amnesia. They can occur in the form of talking in a dream, it is most often unintelligible babbling, walking around the bed or more dangerously leaving the house through open windows or doors [7]. Usually patients do not show any symptoms that would indicate the occurrence of a somnambulism episode. There are no convulsions, increased heart rate, faster breathing and no significant changes in the EEG. The sleep is calm, until the sudden stimulation of the central nervous system (CNS) will cause an acceleration of heart rate which will lead to the start of sleepwalking [8].

This disease affects approximately 1-2% of the general population [9]. It is estimated that 15% of children aged 2-6 and 6% of children aged 6-11 are sleepwalker [10]. This frequency decreases with age because slow-wave sleep is more common among children [11].

Many factors can increase the number sleepwalking episodes including drugs, especially psychotropic, stress, breathing disorder during sleep, thyrotoxicosis, pregnancy [12].

Case report:

A 21-year-old man was admitted to an emergency mode to the Hospital Emergency Department in Zamość after a fall from the balcony from the height of the first floor. He did not remember the circumstances of the accident - in the interview the sleepwalking of the children's room and the consumption of alcohol on the day of the injury. The laryngological examination revealed: superficial abrasions of the facial skin, bleeding from the torn nasal turbinate on the left side, lacerated wound of the lower left lip, superficial mucosal alveolar processes of the upper jaw. In an otoscopic examination, haemotympanum on the left side was present. In the ophthalmic examination: the limited mobility of the left eyeball upwards, the binocular division in the upward and downward glance, the monocular one does not occur. Computed tomography showed: fracture of medial, anterior, posterior, upper left sinus maxillary which contained blood. Also fracture of the medial, lateral and lower walls of the left eye socket with subsequent implantation of bony fragments into the maxillary sinus(pic.1).



Pic.1 computed tomography scan after the accident

The X-ray of the right elbow joint showed dislocation of this joint. It was complicated with radial bone fracture and collateral ligament lesion, ulnar and radial elbow dislocation within the elbow joint. The patient was referred to the Maxillofacial Surgery Clinic, Medical University of Lublin where he was qualified for surgical operation of the repositioning of the left eye socket. Blood laboratory tests showed an elevated level of TSH (4,690 uU / ml).

One and a half week after the accident with the conjunctival perforation on the left side, access to the fracture of the orbital bottom was obtained. Then an intra-oral incision was made

in the left atrium of the oral cavity, the fragment of the anterior wall of the maxillary sinus was removed to gain access to the orbital bottom from the side of the maxillary sinus.

The orbital sinus hernia was drained and then the orbital bottom was reconstructed with the Resorb Xresorbable plate. The patient achieved complete postoperative double vision remissions.

The patient in good general condition was discharged from the hospital with the recommendation of control in the ENT, ophthalmology, maxillofacial surgery and endocrinological clinic.

Conclusion:

The results of a study conducted in Montpellier in France showed that less than 23% of lunatics experience an episode every night and 43.5% once a week[13]. Additionally less than 20% of respondents confirmed that they experienced adverse events during the episode such as bruises, bleeding, nasal fractures[13]. One of the participants of the study suffered many fractures and serious head trauma after jumping from the balcony from the 3rd floor [13].

In the years 2000-2015 in Switzerland the research was carried out and showed that out of 62,000 admissions to the Admission Room 11 people suffered injuries during the sleepwalking episode [14]. The average age was 39 years (from 16 to 77). The main reason for the admission was a fall (mainly from the bed, stairs or windows). 18.2% had previously diagnosed SW. The most common concomitant disease was epilepsy (6.54%). 36.4% of patients required hospitalization due to orthopedic injuries requiring further treatment. Among them there were two (18.2%) patients with multiple injuries[15]. None of the patients died due to injuries [15].

Sleepwalking may be a mild disease but most somnambulists presented the story of aggressive and/or harmful behavior during sleep, posing a threat to themselves and the family [16]. In this study 17% confessed that they had suffered severe injuries requiring medical care after a sleepwalking episode at least once in their lives. Aggressive behaviors were more frequent after consumption of alcohol, drugs, stressful situations during the day, lack of sleep or after intense physical activity in the evening - 59% of respondents [17]. Menacing behavior during sleep is more likely to affect men [18].

No specific therapy for lunatics has been discovered yet- there has not been any clinical trial in this direction. It seems beneficial to use psychotherapy and psychoeducation, both patients

and their families. Pharmacotherapy may be used to treat by antiepileptic drugs, e.g. valproate, SSRI-imipramine or melatonin - a pineal hormone that regulates sleep daily rhythm [19]. It is recommended to people exposed to accidents, controlled recovery and hypnosis [20]. It is also possible to apply electroconvulsive therapy [21].

In summary, although somnambulism is usually seen as a mild state, it is potentially a life-threatening condition. It is also associated with sleep disorders, excessive daytime sleepiness, tiredness, mental disorders and reduced quality of life. In the analysis of the presented case, in connection with the fact that the patient consumes alcohol before the injury, it is difficult to say with certainty that it is associated with somnambulism disorders.

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