

Subarachnoid hemorrhage during sexual intercourse

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ABSTRACT

Subarachnoid hemorrhage is a leakage of blood, outside the vessel, range to the subarachnoid space. The most common reason of bleeding is intracranial aneurysms. The rupture of aneurysms may occur at the rest, stress, straining, defecation and sexual activity. We report a 51-year old male patient brought to the Emergency Department (ED) with complaints of syncope after waking up. On initial ED evaluation, he was conscious, Glasgow Coma Score was 15/15; and his vital signs, physical and neurological examinations were normal. The patient's history contains that the syncope occurred during the sexual activity and accompanying symptom was headache. Subarachnoid hemorrhage was detected on computed tomography (CT). He was consulted by a neurosurgeon, and operated for aneurysm. Sometimes patients do not provide adequate information as in our case. This can delay the diagnosis and may increase the mortality and morbidity rates. However, detailed anamnesis and consideration of accompanied signs and symptoms may reveal the rare but fatal causes of syncope like SAH. SAH, as a cause of syncope, should be kept in mind in patients who suffer from syncope.

KEY WORDS: Sexual activity, Cerebral aneurysm rupture, Subarachnoid hemorrhage.

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INTRODUCTION

Subarachnoid hemorrhage (SAH) is bleeding from a ruptured vein or artery into subarachnoid space. The most common cause of SAH is intracranial aneurysms.^{1,2} Aneurysm, as a word, means the expansion of vessels. In every heartbeat,

because of the intravascular pressure, the vessels are bulking to outside from the weakest area of vessel's wall and that concludes with aneurysms in time. When the pressure is higher enough, the aneurysm ruptures from the weakest area.¹ Rupture mostly happens spontaneously but also happens with cough, straining, excessive activity and sexual activity because of increased pressure.¹ Patients mostly describe headache and this is much more severe than the previous ones. Furthermore, they can have some other signs like vomiting, confusion, altered level of consciousness and agitation.^{1,2} Some of the patients have rapid loss of consciousness following headache and the level of consciousness can be getting worse or better or remaining the same.^{1,2}

We present a case, who was admitted to hospital with syncope. When investigated and questioned carefully it has been realized that syncope occurred during sexual activity. To our knowledge, SAH can occur during sexual activity, but there are few reports in the literature. Because of being an important case,

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physicians should keep in mind SAH in case of all kinds of syncope and headaches. So we intended to emphasize the importance of anamnesis and also remind the existence of cerebrovascular accidents in the etiology of syncope.

CASE REPORT

A 51-year-old male patient was brought to our emergency room with complaint of syncope that happened just after the patient wake up. At the initial ED evaluation, he was conscious, Glasgow Coma Score was 15/15; and vital signs were as follows: blood pressure 130/80 mmHg, pulse rate 80 bpm, body temperature 36°C; and respiratory rate 16 pm. Physical and neurological examination revealed no pathological finding. Past medical history revealed no disease and no medication. An IV access established, blood samples were obtained and the patient was monitored for unexpected medical condition.

Complete blood count (CBC), glucose, serum electrolytes (potassium, sodium, and calcium), liver and kidney function tests were in the normal range. Electrocardiogram (ECG) revealed the heart rate was 84/min rhythmic with no acute ischemic changes. During the examination of patient, his relatives

did not provide adequate information. Therefore he was examined questioned again in detail; and it was learned that syncope occurred during sexual activity and was accompanied with headache. An emergent cranial CT was performed as initial imaging technique for evaluating a potential stroke in the ED. The diagnosis was SAH on cranial CT (Fig.1). Aneurysm rupture was determined on CT angiography and after neurosurgery consultation patient was transferred to neurosurgery ward.

DISCUSSION

Syncope is a symptom complex that is composed of a brief loss of consciousness associated with an inability to maintain postural tone that spontaneously and completely resolves without medical intervention. It is different distinct from vertigo, seizures, coma, and states of altered mental status.³ The causes determined are varied as vasovagal (often called *reflex mediated*) (21%), cardiac (10%), orthostatic (9%), medication related (7%), seizure (5%), neurologic (4.1%), and unknown (37%). Neurologic disorders are rarely the primary cause of syncope, but must be considered in any patient with syncope; and signs or symptoms indicating central nervous system pathology.³

Subarachnoid hemorrhage is a devastating disease process that may present with syncope but is usually accompanied by other symptoms such as focal neurologic deficits, headache, or persistent altered mental status.³ Instead of difficulties in clearing the etiology of syncope the most useful approaches are a detailed anamnesis, physical examination and electrocardiography.³ In the anamnesis, prodromal events, drug history and chronic illnesses are important to determine the high risk. Physical examination may show the precise cause of syncope as well as neurologic and rectal examination help to find out the secondary causes of syncope.³ It can be determined by arrhythmia and ischemia by ECG and monitorization.³ Our patient had no past medical history, as well as there was no abnormality in vital signs, physical examination including neurologic examination. ECG, CBC and biochemical results were in normal range. However when the anamnesis was detailed it was noticed that syncope occurred during sexual activity and it was accompanied by headache. Cranial CT revealed SAH in basal cistern and bilateral Sylvian fissures.

Subarachnoid hemorrhage due to rupture of a cerebral aneurysm is most common in persons age 20 to 60. It is slightly more common in women than men. The most common cause of SAH is

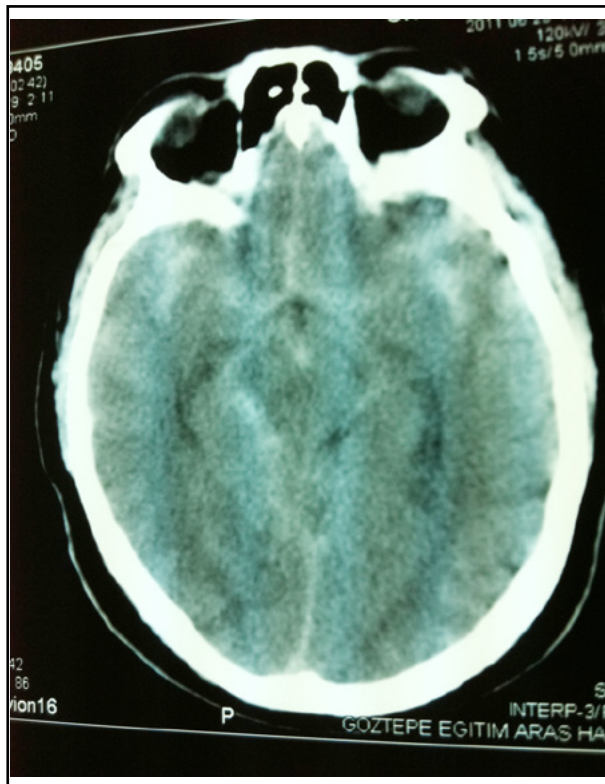


Fig.1: CT image of subarachnoid hemorrhage.

intracranial aneurysms.⁴ In our case anterior communicating artery aneurysm is determined by cerebral angiography. Rupture of aneurysm may occur spontaneously as well as it can be affected by stress, straining, defecation, and sexual intercourse. Sexual activity causes fluctuation in blood pressure and sometimes increases the mean arterial pressure seriously as high as 130-175 mmHg in males and 125-160 mmHg in females which can cause the rupture of aneurysm.⁵⁻⁷ Increased level of noradrenaline and blood pressure enhance the risk of aneurysm rupture. Furthermore it was shown that the vertical increase of blood pressure by sexual activity enhanced the risk of aneurysm rupture.^{6,7} Mann et al reported high blood pressure rates during sexual activity in 11 cases in 18 sexual activity episodes. In these episodes they figured out the peak arterial pressure 300/175 mmHg and mean arterial pressure 237/138mmHg for males and 216/127 mmHg for females.⁷ Furthermore; in another study Littler et al showed that peak arterial pressure might reach 233/128 mmHg by sexual activity in 7 normotensive cases.⁸ As well as in a study by Kriz et al; 4 SAH were determined in 51 cases those had neurologic complication at the time of sexual activity.⁹

As it is stated in the literature, many reasons can cause SAH, including sexual activity. These cases are usually caused by aneurysms, have high morbidity and mortality rates. Take into consideration of the disease can be lifesaving.

CONCLUSION

Sometimes patients do not provide adequate information as in our case. This can delay the

diagnosis and may increase the mortality and morbidity rates. However, detailed anamnesis and consideration of accompanied signs and symptoms may reveal the rare but fatal causes of syncope like SAH. SAH, as a cause of syncope, should be kept in mind in patients who suffer from syncope.

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