G22 Fatal Subarachnoid Hemorrhage During Sexual Activity: A Case Report

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After attending this presentation, attendees will have learned about a case of sudden death immediately after coitus.

This presentation will impact the forensic science community by explaining that sexual activity, in susceptible subjects may be a trigger of medical emergencies with a real risk of sudden death.

Particularly, the anatomical and physiological responses to coitus may determine many acute and severe complications. Among these, cardiovascular, neurological and urological diseases, soft tissue and immunological consequences may arise in patients with predisposing risk factors, even if asymptomatic (*A. Banerjee, 1996*).

Many cases of sudden and unexpected death during autoerotic activity have been reported in literature; the majority of these may be considered accidental deaths, especially by asphyxial mechanism. Only few cases are reported as due to natural causes (*N. Beahrendt et al., 2002*).

Studies on sexual related deaths show that cardiovascular diseases and cerebral hemorrhages are the most important causes of death connected to sexual activity.

Coronary artery disease (CAD), myocardial infarction and reinfarction, dissection of aortic aneurysms along with cardiomypathy – with or without heart failure – are more frequently associated with coital death.

Even if intracerebral bleeding during sexual activity is rare, coitus has also been considered to trigger subarachnoidal bleeding, because of the transient rise in blood-pressure.

As any form of physical exercise, sexual intercourse increases heart rate and blood-pressure. In the majority of cases of natural death combined with sexual activity, the victims are generally male (*W.Janssen et al., 2005*).

Although the gender differences in the incidence of CAD and SAH are statistically not significative, the male dominance of CAD has been showed. On the contrary, the female dominance of SAH has been demonstred (*S. Lee et al., 2006*).

Many authors described a "malignant coital headache," so that it can be considered a common feature of cerebral vascular accident (*M. Sutton Brown et al., 2006*).

A case of sudden and unexpected death of a homeless 45-year-old woman is described. During the questioning of the circumstances of death, the partner reported that they were on the beach, lying under a boat, around 1:00 p.m. The woman suddenly presented severe dyspnea and rigidity of the body just after sexual intercourse. Medical assistance was immediately called but the woman died despite attempts at resuscitation. According to the antemortem data obtained from the police report and relatives, it showed that the deceased was apparently healthy and did not show any prior symptoms of cardiovascular disease. No signs of serious headache were present at all in the clinical history. Because the cause of death remained unknown in order to investigate the partner's report, a complete medicolegal autopsy was performed. The external examination was unremarkable and no signs of injuries or trauma were observed. The internal examination revealed pulmonary edema and lung congestion. There was massive subarachnoid hemorrhage due to a basilar artery aneurysm rupture. No other important pathological findings were observed. In conclusion, subarachnoid hemorrhage secondary to a cerebral aneurysm rupture is still an important cause of death despite steady advances in diagnosis and treatment. Although transient hemodynamic changes associated with sexual activity seem to play some role in the pathogenesis of subarachnoid hemorrhage, the mechanism of physical activity induced subarachnoid hemorrhage is still not completely known.

Sexual Activity, Subarachnoid Hemorrhage, Sudden Death

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