H98 Sudden Death During Sexual Intercourse: A Fatal Aortic Dissection and Sildenafil Abuse

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The goal of this presentation is to introduce a case of sudden death of a 66-year-old man during sexual intercourse. A complete postmortem examination and toxicological analysis revealed the cause of death.

As there is a rarity of fatal cases in sildenafil users, this presentation will impact the forensic science community by informing attendees of the pathological effects of sildenafil and will emphasize the necessity for an echocardiographic examination before prescribing sildenafil.

Aortic dissection is one of the most dramatic cardiovascular diseases since the first detailed description suggested by Morgagni in 1761. It is defined as blood present between the layers of the aortic wall (false lumen), outside the true lumen, as a result of the decomposition of the media. The separation in the media is in 95% of cases caused by the blood flowing through a tear in the intima (intimal tear or flap), while in 5% of the cases, the cause is bleeding within the media (intramural hematoma). The most frequent etiologic factors reported are chronic hypertension, hereditary connective tissue diseases, and congenital aortic valve diseases (bicuspid and unicuspid aorta). Few fatal cases of acute aortic dissection during sexual intercourse in sildenafil abuse have been reported in literature; it has been supposed that sildenafil use, independent of changes in the aorta pressure, could trigger an aortic dissection. *In vitro* studies reveal that sildenafil has vasorelaxant properties in rat aorta; thus, with a decreasing aortic stiffness, sildenafil can trigger intimal tearing. Other studies performed on pulmonary arteries stated that without changing pulmonary artery or systemic blood pressure, sildenafil increases the pulmonary flow and proliferates pulmonary smooth muscle cells. Based on all of these, sildenafil use can make the aorta wall more sensitive and can trigger the dissection.

Case Report: This study presents the case of a 66-year-old man with no history of cardiac problems who suddenly collapsed during sexual intercourse. His partner stated he used to take sildenafil a few hours before sex. During sexual intercourse, he suddenly complained of the onset of chest pain and fatigue before collapsing. He was not using any other medications regularly. A complete postmortem examination was performed the day after death and type A (DeBakey type I) aortic dissection was detected and recorded as the cause of death. Toxicological examination was performed and confirmed the use of sildenafil. Because dissection occurred in the critical time interval between the peak plasma concentration time and half-life of sildenafil and because the patient had no history of any triggering factor (mechanical stress, trauma, etc.), sildenafil is thought to have triggered the dissection.

Sudden Death, Sildenafil, Aortic Dissection

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