Is corona mortis a historical myth? A perspective from gynecological oncologist

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Dear Editor,

Corona mortis is the vascular anastomosis between the obturator and external iliac or inferior epigastric vessels. It is also called as “crown or circle of death” because; due to an injury a massive bleeding may occur. Obturator artery arises from the internal iliac artery and lies longitudinally to the obturator foramen on the medial part of obturator internus muscle. Anatomically, corona mortis is on the retro-pubic part of superior pubic rami lateral to the symphysis pubis, where a pubic artery or vein in this field may arise from the inferior epigastric or external iliac vessels, lie to the obturator foramen and be damaged during surgical procedures. By the way, the incidence of venous corona mortis is between 27(1)-100(2)%, on the other hand the incidence of arterial corona mortis is between 14.8(3)-36(4)%.

Corona mortis may have several anatomical variations. Since the vascular supply of pelvis has many connections and variations, the clinical role of corona mortis in surgical practice of general surgeons, gynecologists, urologists and orthopedicians during femoral hernia operations, urogynecological operations like transvaginal tape procedure, pelvic lymphadenectomies or pelvic fracture operations is a matter of importance to prevent a significant, uncontrolled bleeding(5).

During the procedures within an anterior approach to the pelvis like hernioplasty, femoral hernia repair or sometimes transvaginal tape operations, the surgeon could not recognize and see the vascular connections on the retro-pubic area, which is on the posterior part of surgically exposed field. However, during the operations where the surgeon opens the retroperitoneal area like pelvic lymph node dissection, the retro-pubic vascular anastomoses are easily seen after a careful and tiny dissection over the external iliac artery below the inguinal ligament. By the way, the corona mortis will be noted over the superior pubic rami, on the medial part of ligamentum teres uteri, where it enters the inguinal canal; figure shows the pubic vein below the inguinal ligament on the posterior part of superior pubic rami. This large area of exposure will maintain quick maneuvers during an abnormal bleeding to control the hemorrhage. Our clinical practice of 96 pelvic lymphadenectomies showed an incidence of 2.01% (2/96) arterial anastomoses and we had totally 4 hemorrhage (4.1%) from the pubic vein (venous corona mortis), which were easily controlled. In that manner, the term “corona mortis” is questionable in gynecological oncology practice. Nevertheless, the amount of bleeding and the ability to control the hemorrhage from an arterial corona mortis could not be foreseen.

References