Surg Radiol Anat (2010) 32:17–24
DOI 10.1007/s00276-009-0534-7

ORIGINAL ARTICLE

Anatomical considerations on the corona mortis

Mugurel Constantin Rusu · Romica Cergan · Andrei Gheorghe Marius Motoc · Roxana Folescu · Elena Pop

Received: 12 April 2009 / Accepted: 9 July 2009 / Published online: 28 July 2009

Abstract The *corona mortis* (CMOR) represents the vascular connection of the obturator and external iliac systems. We aimed to evaluate by dissections the morphological possibilities of the CMOR and their individual combinations. For the study we used 20 human adult cadavers that were bilaterally dissected (40 hemipelvises), with evidences of the vascular elements at the level of the superior pubic branch in 32 (80%) of hemipelvises. The morphological patterns we identified were classified in three types (I–III): I. arterial CMOR (10 hemipelvises): I.1. obturator artery (OA) from the external iliac artery (EIA); I.2. OA from the inferior epigastric artery (IEA); I.3. anastomosis of the OA and IEA; I.4. pubic branches of the OA, in the absence of any anastomosis with the EIA system; II. venous CMOR (6 hemipelvises): II.1. obturator vein (OV) draining into the external iliac vein (EIV); II.2. OV draining into the inferior epigastric vein (IEV); II.3. venous anastomosis of the OV and IEV and III combined, arterial and venous CMOR (16 hemipelvises). We classified the combined *coronae mortis* in nine different subtypes that mainly (but not exclusively) correspond to various combinations of types I and II. The surgical relevance of the vascular relations of the superior branch of pubis (in trauma, orthopedic approaches, hernia repair, embolizations and intra-arterial infusions) recommends a detailed knowledge of the morphological and topographical possibilities of the *crown of death* and the individual evaluation of this risky anatomical structure.

Keywords Pelvis · Pubis · Iliac vessels · Obturator vessels

M. C. Rusu (✉)
Department of Anatomy and Embryology,
Faculty of Dental Medicine, University of Medicine and Pharmacy
Carol Davila, 8, Bd. Eroilor Sanitari, 76241 Bucharest, Romania
e-mail: anatomon@gmail.com

R. Cergan
Department of Anatomy, Faculty of Medicine,
University of Medicine and Pharmacy Carol Davila,
Bucharest, Romania

A. G. M. Motoc · R. Folescu · E. Pop
Department of Anatomy, Faculty of Medicine,
University of Medicine and Pharmacy Victor Babeş,
Timişoara, Romania

Present Address:
M. C. Rusu
Str. Anastasie Panu 1, bloc A2, scara 2, etaj 1,
apart. 32, sector 3, 031161 Bucharest, Romania

Introduction

The *corona mortis* is defined as the vascular connections between the obturator and external iliac systems [1, 5, 18].

The name "*corona mortis*" or crown of death testifies to the importance of this feature, as significant hemorrhage may occur if accidentally cut and it is difficult to achieve subsequent hemostasis [5].

Darmanis et al. (2007) [5] brought arguments to sustain a paradox: in anatomical dissections a large vessel was identified behind the superior pubic ramus, whereas in clinical practice this vessel does not seem to be as great a threat as initially perceived.

Although the *corona mortis* is usually regarded as arterial, it may be arterial or venous or both [18]; the diameter of the connecting vessel ranges from 2.0 to 4.2 mm [10]. It seems that there are no significant differences between genders in the incidence of *corona mortis* and the distance between communicating vessels and the symphysis pubis [18].