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### Origin of radial collateral artery from the posterior circumflex humeral artery in the quadrangular space of the shoulder region – an abnormality which could enhance the complications of quadrangular space syndrome



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Variations in the origin of arteries of upper limb are common. But, some variations bear clinical and surgical significances and reporting such variations could help the clinicians dealing with those structures. One such variation was observed in the right quadrangular space of the scapular region of about 70-year-old male cadaver. Radial collateral artery (RCA); which normally arises from the profunda brachii artery, in this case was arising from the posterior circumflex humeral artery (PCHA) in the quadrangular space. It then descended posterior to the teres major under the cover of lateral head of the triceps brachii muscle. On reaching the spiral groove, the artery accompanied the radial nerve and its further course was similar to that of normal radial collateral artery. It was also observed that the middle collateral artery was arising directly from the brachial artery and its course and distribution was normal. PCHA is vulnerable in the quadrangular space for traumatic aneurysm, compression and occlusion leading to a condition called quadrangular space syndrome. In such cases, it is necessary to know this unusual branching of RCA from the PCHA, where ischemia can even be extended to the lateral part of forearm and elbow. Even during surgical decompression of the space through the posterior approach, it is essential for the surgeon to be aware of this abnormal origin and the course of RCA as reported in this case.

**Keywords:** posterior circumflex humeral artery, quadrangular space syndrome, radial collateral artery, middle collateral artery.

#### Conflicts of interest

The authors have none to declare.

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### True extra-mural duodenal diverticula – a case report



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**Objective:** The duodenum is the most common site for a diverticulum in the small intestine. Diverticula are congenital and usually solitary. They almost always arise in the medial wall of the second part of duodenum, where they are intimately related to the head of pancreas. This relationship means that diverticula are frequently related to the major duodenal papilla.

**Methods:** During routine educational dissection, two true extra-mural duodenal diverticula were found in an adult male cadaver.

**Results:** The first diverticulum 2.5 cm × 2 cm in size was seen to be arising from the medial wall of the second part of duodenum, 2 cm proximal to the opening of major duodenal papilla. The second diverticulum 0.5 cm × 0.5 cm in size was arising from lateral wall at the junction of second & third part of duodenum. Both diverticulum

were seen to be communicating with the duodenal lumen. Microscopic study of both diverticula revealed the presence of all four layers of duodenum i.e., mucosa, submucosa, muscularis externa and serosa. However, villi were found to be rudimentary, Brunner's glands were absent and muscularis externa was thinned out.

**Conclusion:** Duodenal diverticulum are usually asymptomatic but may sometimes develop complications with nonspecific abdominal symptoms. These may also cause difficulties during endoscopic interventions of this region. Thus, knowledge of these diverticula is important for Gastro-intestinal surgeons while managing patients of pain abdomen and while doing endoscopy.

#### Conflicts of interest

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### Variant portal venous anatomy: embryological consideration and clinical relevance



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**Objective:** The portal vein is the largest intra-abdominal vein located in the right upper quadrant of the abdomen. It is formed by the union of two main tributaries, the superior mesenteric vein and splenic vein. The inferior mesenteric vein receives blood from upper part of rectum, sigmoid and descending colon and usually empties into the splenic vein. The inferior mesenteric vein may open into the superior mesenteric vein or at the junction between splenic vein and superior mesenteric vein. Knowledge of variations regarding the formation, termination of tributaries of portal vein is very important during surgeries and interventional procedures.

**Method:** During routine educational dissection of an adult male cadaver for undergraduate medical students, an unusual variation of inferior mesenteric vein was observed.

**Result:** An unusual pattern of inferior mesenteric vein termination was observed in a 55 years old male cadaver. The inferior mesenteric vein was seen to be opening into the superior mesenteric vein.

**Conclusion:** The knowledge of normal portal venous anatomy, variations and congenital anomalies is very important during surgeries and radiological interventional procedures.

#### Conflicts of interest

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