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РЕФЕРАТИ СТАТЕЙ, ОПУБЛІКОВАНИХ У ЖУРНАЛІ "SURGICAL AND RADIOLOGIC ANATOMY (JOURNAL OF CLINICAL ANATOMY)". – 2002. – V. 24, № 2

Yiming A., Baque P., Rahili A. et al. Anatomical study of the blood supply of the coxal bone: radiological and clinical application (*Анатомічне дослідження тазової кістки: радіологічне та клінічне застосування*) // **Surg. and Radiol. Anat.** – 2002. – V. 24, № 2. – P. 81-86.

The aim of this work was to study the arterial blood supply of the coxal bone in order to optimize radiological embolization and to minimize the risk of postoperative osteonecrosis. Ten fresh cadavers were dissected after intraarterial injection of colored resin. All the collateral vessels running to this bone were described and counted. On 25 dry bones, the vascular foramina were measured with the aid of a millimetric gauge and a vascular map was created. The posterior part of the ilium appears to be twice as well vascularized as the anterior part. Fractures of the posterior arch of the pelvis are theoretically more hemorrhagic. The presence of the iliolumbar artery in contact with the sacroiliac joint increases the risk with open book or shearing fractures. The artery of the ischium, a collateral of the pudendal artery, supplies the posterior and lateral parts of the acetabulum and the artery of the roof of the acetabulum, its superior and lateral parts. The branches of the anterior and posterior divisions of the obturator artery supply the superior part of the surroundings of the obturator foramen and the antero-inferior and postero-inferior parts of the acetabulum. The Kocher approach may injure the artery of the ischium. Letournel's extended lateral approach and Mears' triradiate approach may injure the artery of the ischium and the artery of the roof of the acetabulum. The risk of osteonecrosis appears to be theoretically increased if one adds an endopelvic approach. The anterior approach to the acetabulum appears to be that

which theoretically leads to the least devascularization.

Assouad J., Becker C., Hidden G., Riquet M. The cutaneo-lymph node flap of the superficial circumflex artery (*Шкірно-лімфовузловий клапоть поверхневої огиальної клубової артерії*) // **Surg. and Radiol. Anat.** – 2002. – V. 24, № 2. – P. 87-90.

Upper limb lymphoedema and associated radiation-damaged chest wall are complications occurring after breast cancer treatment. Previous anatomical and clinical studies have demonstrated the usefulness of inguinal lymph node autotransplantation in managing lymphoedema. The present anatomical study is a complement to previous studies about the cutaneous inguinal flap. It has demonstrated the feasibility of using a free inguinal cutaneo-lymph node flap supplied by the superficial circumflex iliac artery. The useful vascularized abdominal skin area ranged from 176 to 288 cm² and was contained within a vascularized skin area extending up to 928 cm². However, the vascularization never extended widely beyond the abdominal midline. Although it mainly remains unilateral, this flap combining skin and lymph nodes may help in the management of lymphoedema and chest wall damage when they occur simultaneously as complications of breast cancer treatment.

Parratte M.B., Tatu L., Vuillier F. et al. Intramuscular distribution of nerves in the human triceps surae muscle: anatomical bases for treatment of spastic drop foot with botulinum toxin (*Внутрішньом'язове розгалуження нервів триголового м'яза литки: анатомічна основа для лікування спастичної вися-*

чої стопи ботуліновим токсином) // **Surg. and Radiol. Anat.** – 2002. – V. 24, № 2. – P. 91-96.

Recent progress has been made in selective functional treatment of hypertonia of spastic origin by local injection of botulinum toxin into the muscles responsible for equinus foot dynamic deformation. The technical aspect of the intervention requires a strategy adapted to the individual patient. Good practice is founded on precise knowledge of the intramuscular nerve distribution of end plate zones, since the target organ of the toxin is the motor end plate. Knowledge about the location of motor end plates, which differs according to the structure of the muscle in question, remains rather poor. Through macroscopic and stereoscopic microscopic dissection of the nerve courses in the triceps surae muscular group in 40 legs, we have ascertained in more detail the distribution of motor end plates, which appear to be more numerous in certain zones of the muscle bellies. These zones were measured morphometrically and divided into segments which are expressed in percentages of a standard leg length. We maintain that these zones are the injection sites most likely to guarantee the best treatment efficacy.

Wolfram-Gabel R., Sick H. Microvascularization of the mucocutaneous junction of the eyelid in fetuses and neonates (*Мікроеваскуляризація шкірно-слизової облямівки повіки у плодів та новонароджених*) // **Surg. and Radiol. Anat.** – 2002. – V. 24, № 2. – P. 97-101.

The aim of this study was to specify the microvascularization of the junctional region between the integuments of the superficial surface of the free margin of the eyelid and the palpebral conjunctival mucosa. The study was carried out using histological or transparified slices of upper and lower eyelids taken from fetuses and neonates, in which the vascular system was injected with agarized China ink. The mucocutaneous junction of the eyelid is located at the posterior border of the free margin and extends to its deep surface. It has vascular similarities to the oral cavity and the nasal pyramid. Under a thickened avascular epithelium, there is a papillary network composed of characteristic loops that are less raised than in the lips but more developed than in the nose. The superficial and deep vascular reticular networks are

comparable in fundamental arrangement to those of other junctional zones. Thus, the palpebral mucocutaneous junction shows cutaneous-type microvascularization, just like the other junctional zones of the head.

Al-dabbagh A.K.R. Anatomical variations of the inguinal nerves and risks of injury in 110 hernia repairs (*Анатомічні зміни пахвинних нервів та ризик їх ушкодження під час 110 грижозосічень*) // **Surg. and Radiol. Anat.** – 2002. – V. 24, № 2. – P. 102-107.

The aim of this study was to identify the anatomical variations in the inguinal course of the ilioinguinal nerve (IIN) and the iliohypogastric nerve (IHN) during operative repair of inguinal hernias. A consecutive series of 110 primary inguinal hernias were repaired by the mesh technique. Particular attention was paid to early identification and recording of the course of both the IIN and IHN and preserving them throughout the operative procedure. The course of both nerves was found to be consistent with that described in anatomical texts in only 46 of 110 explorations (41.8%). The course of one or both nerves was found to be a variant in the other 64 of 110 (58.2%) explorations and often rendered them susceptible to injury. These variations included: (1) acute infero-lateral angulation of the IIN at its exit behind the superficial inguinal ring (SIR) fibers in 20 of 64 cases; (2) similar direction of the IIN but in a plane superficial to the external oblique aponeurosis (EOA) and proximal to the SIR in 18 of 64 cases; (3) a single stem for both nerves over the spermatic cord in 24 of 64 cases, with variation in the subsequent course; (4) absence of one or both nerves in 8 of 64 cases; (5) accessory IIN or IHN in 3 of 64 cases; and (6) aberrant origin of the IIN from the genitofemoral nerve (GFN) in 2 of 64 cases. None of 68 of 105 patients seen at 3 months postoperatively (compliance rate 65%) complained of sensory disturbances or pain in a dermatome distribution of the IIN or IHN. It is concluded that anatomical variations in the inguinal course of the IIN and the IHN are extremely common but readily identifiable. Their early identification and preservation is likely to abolish, or considerably decrease, the incidence of postoperative sensory changes and/or neuralgia pain.

Dargaud J., Galichon V., Dargaud Y. et al.
Study of the relationship between the supra-
scapular artery and the brachial plexus
(Дослідження зв'язку між надлопатковою ар-
терією та плечовим сплетенням) // Surg. and
Radiol. Anat. – 2002. – V. 24, № 2. – P. 108-112.

The literature concerning the relationship of the suprascapular artery with the brachial plexus is quite limited. The aims of this study were to investigate the different types of relationships between the suprascapular artery and the brachial plexus trunks and to try to clarify their prevalence in the European population. Our study involved the dissection of 100 upper extremities from adults, all of European origin (55 women, 45 men). In the classic description, the suprascapular artery passes in front of the brachial plexus (group A) in the majority of cases, then behind the omohyoid before reaching the superior border of the scapula. There are two other types of relationship with the brachial plexus: the suprascapular artery can pass between the trunks of the brachial plexus (group B) or the artery can pass behind the brachial plexus (group C). To our knowledge there has been only one study on the subject, carried out by Kosugi et al. Our results show a not inconsiderable number of variations in the relationships between the suprascapular artery and the brachial plexus (29%). Although no differences were noted between the sexes, a significant number of individual variations were revealed by the comparative study of dissections performed on both upper extremities of the same individual. Our re-sults suggest that new studies are required to complete these initial anatomical results observed on a small sample of subjects of European origin.

Akita K., Shimokawa T., Tsunoda A., Sato T.
Nervous branch passing through an accesso-
ry canal in the sphenozygomatic suture: the
temporal branch of the zygomatic nerve
(Нервова гілка, що прямує крізь додатковий
канал клино-виличного шва: скронева гілка
виличного нерва) // Surg. and Radiol. Anat. –
2002. – V. 24, № 2. – P. 113-116.

A nervous branch which passes through a small canal in the sphenozygomatic suture is sometimes observed during dissection. To examine the origin, course and distribution of this nervous branch, 42 head halves of 21 Japa-

nese cadavers (11 males, 10 females) and 142 head halves of 71 human dry skulls were used. The branch was observed in seven sides (16.7%); it originated from the communication between the lacrimal nerve and the zygomaticotemporal branch of the zygomatic nerve or from the trunk of the zygomatic nerve. In two head halves (4.8%), the branch pierced the anterior part of the temporalis muscle during its course to the skin of the anterior part of the temple. The small canal in the suture was observed in 31 head halves (21.8%) of the dry skulls. Although this nervous branch is inconstantly observed, it should be called the temporal branch of the zygomatic nerve according to the constant positional relationship to the sphenoid and zygomatic bones. According to its origin, course and distribution, this nervous branch may be considered to be influential in zygomatic and retroorbital pain due to entrapment and tension from the temporalis muscle and/or the narrow bony canal.

Gulekon I.N., Turgut H.B. A beaklike
bony extension of the medial aspect of the
greater sciatic notch: a radiographic appear-
ance sexually influenced *(Клиноподібне*
кісткове витягання за медіальну частину
великої сідничної вирізки: рентгенологічне
зображення залежно від статі) // Surg.
and Radiol. Anat. – 2002. – V. 24, № 2. –
P. 117-119.

The bony pelvis provides more obvious sex differences than any other bone in the human skeleton. This study evaluates a bony extension of the medial aspect of the greater sciatic notch, which extends caudad to the arcuate line as seen on pelvic radiographs. A total of 2620 randomly selected supine pelvic radiographs (anteroposterior view) of adult females and males were reviewed. The subjects belonged to a central Anatolian population and their age ranged between 18 and 77 years in females and between 18 and 81 years in males. Only 22 (1.7%) of the 1337 female pelvic radiographs showed a bony extension, whereas 882 (68.8%) of the males had one. All these bony extensions were bilateral and symmetric. The results were statistically significant ($P < 0.001$). We assert that this radiographic appearance is a male characteristic.

Erbagci H., Yildirim H., Kizilkan N., Gumusburun E. An MRI study of the meniscofemoral and transverse ligaments of the knee (*Магнітно-резонансне дослідження меніско-стегнових та поперечної зв'язок коліна*) // *Surg. and Radiol. Anat.* – 2002. – V. 24, № 2. – P. 120-124.

Our aim was to assess the anatomic localization, dimensions and incidence of the transverse and meniscofemoral ligaments, which can show anatomic variations or be mistaken for some pathologic conditions. In 100 healthy subjects (52 female, 48 male) whose ages ranged from 12 to 84 years, sagittal and coronal magnetic resonance images of the knee were obtained. There was at least one anterior or posterior meniscofemoral ligament in 82 cases. The anterior meniscofemoral ligament was present in 8 of the female and 4 of the male subjects. The posterior meniscofemoral ligament was found in 20 female and 22 male subjects. Both the anterior and posterior meniscofemoral ligaments were present in 15 female and 13 male subjects. The transverse ligament of knee was encountered in 19 female and 12 male subjects. In the females, average lengths of the anterior and posterior meniscofemoral ligaments were 9.87 ± 4.79 mm and 25.60 ± 5.50 mm, respectively. The corresponding values in the males were 11.11 ± 2.57 mm and 28.80 ± 5.49 mm, respectively. In the females, the average width of the anterior and posterior meniscofemoral ligaments were 2.45 ± 1.02 mm and 2.30 ± 1.15 mm, respectively. The corresponding values in the males were 2.52 ± 0.87 mm and 2.30 ± 1.15 mm, respectively. On MRI assessment, in order to differentiate intraarticular lesions such as osteochondral and meniscal fragments or pseudotear of the lateral meniscus from the normal ligamentous anatomy of knee, the orientation and characteristic localization of the meniscofemoral ligaments should be taken into account.

Durgun B., Yucel A.H., Kizilkanat E.D., Dere F. Multiple arterial variation of the human upper limb (*Численна артеріальна мінливість верхньої кінцівки людини*) // *Surg. and Radiol. Anat.* – 2002. – V. 24, № 2. – P. 125-128.

A case report of multiple variations involving the arteries of the upper limb in a single cadaver is presented. In addition to the proximal

origin of the arteries unusual arterial patterns on both the right and left sides were present. On the right side, the subscapular artery gave rise to a large posterior circumflex humeral artery in addition to the thoracodorsal and circumflex scapular arteries. On the left side, the radial and ulnar arteries arose from the brachial artery at the level of the arm, with their origins being opposite to the usual arrangement. There was an arciform anastomosis between the radial and ulnar arteries, with the radial recurrent artery arising from the concavity of the arch. The course of both the radial and ulnar arteries was normal on the wrist and hand, except for the absence of the first palmar metacarpal artery and an early bifurcation of the second palmar metacarpal artery.

Prades J.M., Timoshenko A., Dumollard J.M. et al. High duplication of the internal jugular vein: clinical incidence in the adult and surgical consequences, a report of three clinical cases (*Високе подвоєння внутрішньої яремної вени: клінічна частота хірургічних наслідків у дорослих, повідомлення про три клінічні випадки*) // *Surg. and Radiol. Anat.* – 2002. – V. 24, № 2. – P. 129-132.

Duplication of the internal jugular vein (IJV) is a rare malformation. Three intraoperative cases are reported. In our personal experience, the clinical incidence of the anomaly is approximately 4 per 1,000 unilateral neck dissections. The venous duplication is at a variable height, affecting the superior part of the IJV. The lateral branch of the accessory nerve (XI) always passes medially to the anterior vein and laterally to the posterior vein, between the venous duplication. This is most often unilateral but sometimes bilateral. The IJV may be normal, dilated or ectatic. The discovery of this anatomical variation has practical implications during cervical lymph node clearance, either functional or radical, during oncological surgery necessitating viewing the IJV and its affluents and the lateral branch of the accessory nerve. The embryological explanation suggests a topographical "conflict" between the development of the IJV and the lateral branch of the accessory nerve.

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