

which can be injected from the pads of the manus (fore-paw), finally extend upon the dorsum of the paw, and extend from there by two or more frequently anastomosing trunks along the radial nerve to the elbow, and then follow the cephalic vein to the prescapular gland, no axillary glands being present (Figs. 3281 and 3284). Occasionally, in the cat, one or more branches turn in the bend of the elbow to follow the brachial vessels to the axilla, and finally enter the nearest pectoral gland.

In the rabbit, vessels likewise follow the radial nerve to the elbow, then extend obliquely around the radial side of the brachi-

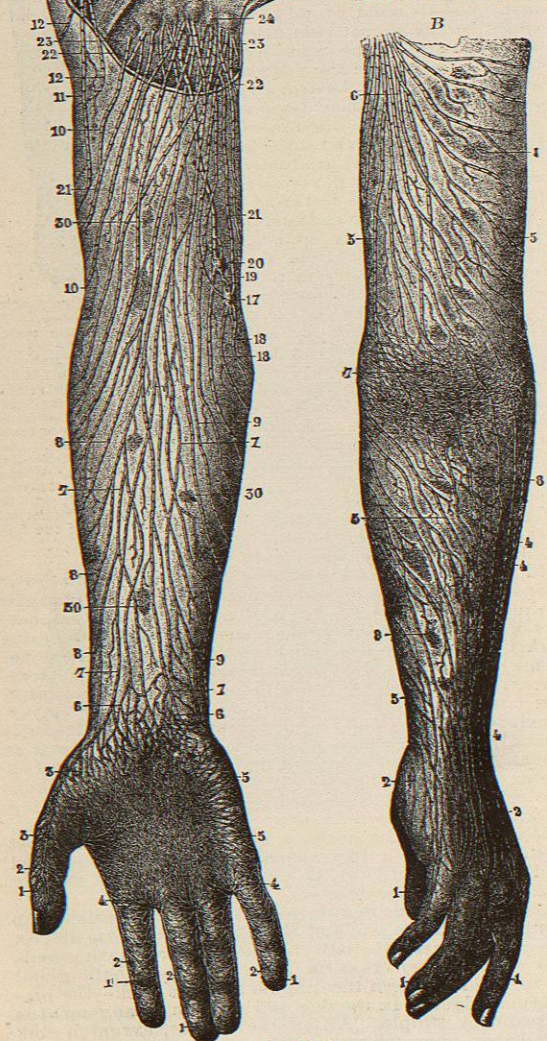


FIG. 3267.

um to the axillary glands. Other trunks follow the large blood-vessels, and enter the axillary glands. The lymphatic vessels of the arm, whatever their course, traverse but a single gland in the dog and cat, sometimes two glands in the rabbit.

LYMPHATIC GLANDS OF THE ARM AND SHOULDER.—Ectal brachial glands (*glandulae brachiales ectales*, s. *superficiales*, s. *cubitales superficiales*, s. *supratrochleares*), two glands often found in the course of part of the trunks from the fourth and fifth fingers and the ulnar side of the arm. The gland in the course of the trunk following the cephalic vein has not been named.

The ental glands. There are sometimes a few in the antibrachium (*glandulae lymphaticae antibrachiales*), through which traverse the ental antibrachial lymphatics, on their way to the ental brachial glands (*glandulae lymphaticae brachiales entales*, s. *profunda*, s. *cubitales profunda*). These are just proximal of the elbow-joint on the brachial vessels. Through them pass part of the ental lymphatics.

The axillary lymphatic glands (*glandulae lymphaticae axillares*, Fig. 3269) are situated in the axillary region around the great vessels and nerves, and covered by the pectoral muscles and extending from the edge of the great pectoral into the subclavian fossa, where they are in communication with the supraclavicular glands. All the lymphatic vessels of the arm and most of those of the shoulder enter these glands; also many from the supra-umbilical part of the abdomen, side, and back; also the lymphatics of the mammary gland and the other structures of the breast, including the efferent vessels of the pectoral lymphatic glands. The efferent trunk (*truncus*

FIG. 3267.—Ectal Lymphatics of the Hand and Arm. (Sappey, Atlas.)

To show the number and course of the trunks, and the fineness of the network in the hand and arm. Except a small area around the shoulder and in the axilla where the skin is removed, the lymphatics are represented as if the skin were transparent. A, Ventral aspect of the right arm. 1, 1, Network of lymphatics on the palmar aspect of the fingers; 2, 2, the collateral trunks on each side of the fingers—the collecting trunks from both palmar and dorsal side wind round the finger to the edge and, uniting into two or more trunks (Fig. 3266), extend upon the dorsum of the hand; 3, 3, trunks coming from the palm to the edge and, uniting into two or more trunks from the distal part of the palm which wind round between the fingers to reach the dorsal surface (see B); 4, 4, collecting trunks from the palm to the edge and, uniting into two or more trunks at the ulnar side of the hand, likewise winding round upon the dorsal surface; 5, 5, collecting trunks from the palm next the wrist—they extend directly along the flexor aspect of the arm; 7, 7, large trunks formed by the union of many of those from the palm and thumb; 8, 8, trunks winding round the radial side of the antibrachium from the extensor to the flexor side; 9, 9, similar trunks winding round the ulnar side of the antibrachium, from the dorsal winding round to the ventral or flexor side; 10, lymphatic trunks curving round from the dorsal or extensor to the ventral or flexor side of the brachium to enter the axillary glands; 11, trunk following the course of the cephalic vein and traversing the gland at 13; 12, 12, trunks winding round the arm and shoulder to join the gland on the cephalic vein; 14, 14, lymphatic trunk accompanying the cephalic vein and entering the trunk accompanying the cephalic vein; 16, cephalic vein in the furrow between the deltoid and pectoral muscles—through these pass part of the vessels from the little finger and the ulnar side of the arm; 18, 19, trunk entering the more distal and joining the two glands—the efferent trunk from 20 is one of the largest of the arm, it penetrates the tissues and accompanies the basilic vein to the axillary glands; 21, 21, collecting trunks extending toward the axilla; 22, 22, cut edge of the skin; 23, 23, brachial aponeurosis; 24, axillary lymphatic glands showing through the aponeurosis; 25, axillary aponeurosis covering the glands; 26, border of the axillary space formed by the teres and latissimus muscles; 27, clavicular fascia of the pectoralis separated from the deltoid by the groove containing the cephalic vein with its accompanying lymphatic trunk; 28, sternal fascia of the pectoralis; 29, 30, 30, points on the brachium and antibrachium where the fine network of vessels has been injected—in a completely injected preparation the entire skin would be covered with such a network. B, Ulnar side of the hand and extensor aspect of the antibrachium and part of the brachium, to show that the trunks from the fingers and palm extend largely upon the dorsal aspect and then wind round the arm to reach the ventral or flexor aspect. 1, 1, 1, Lymphatics of the fingers, the collecting trunks extending upon the dorsum of the hand; 2, 2, 2, vessels on the dorsum of the hand; 3, 3, lymphatic trunks winding round the ulnar side of the antibrachium to reach the flexor aspect; 4, 4, 4, vessels winding round the radial side of the antibrachium to reach its flexor surface; 5, 5, vessels on the brachium curving round to the axilla; 6, group of vessels converging toward the axillary lymphatic glands; 7, lymphatic network at the convexity of the elbow; 8, 8, 8, spots in which the fine lymphatic network of origin is shown.

subclavius) is one of the important tributaries of the common lymphatic trunks. As here used the axillary group of glands includes the subclavian or infraclavicular glands into which flow the trunks following the cephalic vein. By some authors the pectoral glands are also included in the axillary group (Quain).

In the dog and cat no axillary glands are present, all the trunks going to the prescapular gland (*glandula prescapularis*) (Figs. 3281-3285). In the rabbit all go to axillary glands more nearly as in man (Figs. 3286 and 3287).

Lymphatic Vessels of the Pelvic Limb.—The ectal lymphatics of the foot, leg, and thigh are almost precisely like those of the hand and arm. The vessels of the toes and sole extend mostly to the dorsum of the foot, and then wind round the leg to the inguinal region, and enter the subcutaneous inguinal lymphatic glands (Figs. 3268 and 3269). A limited number of vessels from the heel and fibular side of the foot accompany the short saphenous vein to the popliteal space where they enter the popliteal glands and join the ental lymphatics.

The subaponeurotic or ental lymphatics also resemble those of the arm, following the main vascular trunks; hence in the crus there are three groups: one on the extensor side of the crus following the anterior tibial vessels, and sometimes traversing one or two anterior tibial glands at about the middle of the crus. The lymphatics penetrate the interosseous ligament near the knee to enter the popliteal glands. The other two

groups follow the peroneal and posterior tibial blood-vessels to the popliteal glands. After traversing the popliteal glands the lymphatics follow the femoral vessels to the inguinal region, where they enter the ental inguinal glands and after traversing these accompany the femoral vein and artery into the abdomen to the iliac glands. Besides these there are lymphatic trunks accompanying the sciatic and gluteal vessels, which traverse one or more small glands, gluteal and ischiatic glands, at the sacro-sciatic foramen and then enter the hypogastric glands. The trunk following the obturator artery constantly traverses, according to Cruveilhier, a considerable gland (*glandula foraminis obturatorii*) before entering the hypogastric glands.

In the dog, cat, and rabbit there is the same simplicity of the lymphatic trunks as pointed out for the arm. Injections into the pad of the pes (hind

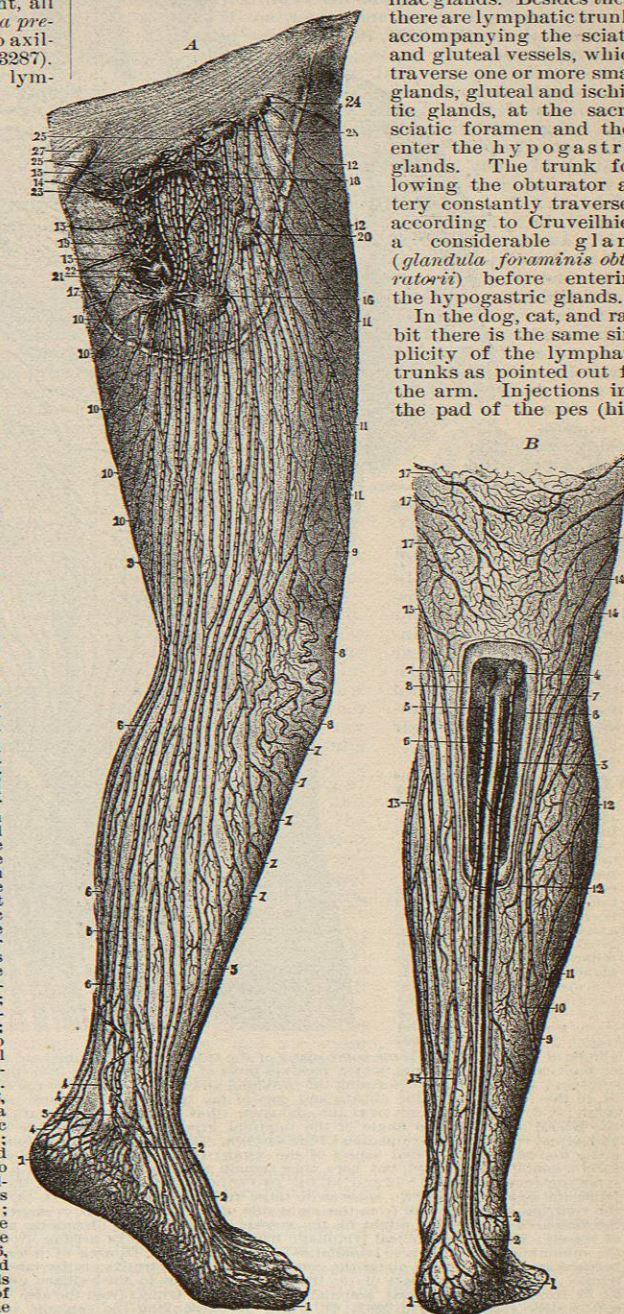


FIG. 3268.

FIG. 3268.—Ectal Lymphatics of the Foot and Leg, to show the Origin, Number, and Course of the Lymphatic Trunks, and the Popliteal and Inguinal Lymphatic Glands. The skin is represented as transparent, except where removed in the popliteal space and in the inguinal region. (Sappey, Atlas.) A, The tibial side of the foot and entire leg. 1, 1, 1, Truncules arising from the sole, great toe, and side of the foot; 2, 2, trunks arising at the toes and extending across the dorsum of the foot to reach the tibial side of the leg; 3, 3, great trunk arising from the plantar aspect near the instep, and skirting the tibial or internal malleolus on its way to the inguinal region; 4, 4, 4, trunks coming from the heel and extending along the ankle and leg; 5, 5, and 6, 6, trunks extending along the crus parallel with the calf; 7, 7, 7, trunks winding round the edge of the tibia to reach the tibial or inside of the leg; 8, 8, lymphatic trunks winding round the knee to reach the inside of the leg. They are very tortuous when the knee is extended, more nearly straight when it is flexed; 9, 9, trunks curving round from the extensor side of the mero, or thigh, to reach the inguinal glands; 10, 10, 10, numerous trunks winding round from the flexor side of the thigh to the inguinal glands; 11, 11, 11, trunks curving round from the extensor side of the thigh to the inguinal glands; 12, 12, trunks from the gluteal region; 13, 13, trunks from the perineal and anal region to the inguinal glands; 14, trunks from the scrotum (cf. Fig. 3269); 15, trunk from the penis; 16, the large distal gland of the ectal inguinal group, into which enter so many of the trunks of the leg; 17, another large gland at the same level; 18, large efferent trunk from 16, it follows the course of the femoral artery; 19, lymphatic trunks following the course of the femoral vein; 20, large gland receiving many of the trunks from the extensor sides of the thigh; 21, gland receiving many of the trunks from the flexor side of the thigh; 22, 22, cut end of the vena saphena magna; 23, gland in the groin to which extend many of the lymphatics from the penis (cf. Fig. 3269); 24, large corner gland receiving most of the trunks winding round the ilium from the lumbar and gluteal region; 25, 25, proximal row of glands in the fold of the groin to which extend many of the trunks from the ventral wall of the abdomen; 27, inguinal ring with the contained spermatic cord. B, Flexor Aspect of the Distal half of the Leg. 1, 1, 1, Trunks from the heel and fibular side of the foot; 2, 2, 2, two lymphatic trunks following the course of the vena saphena to the popliteal glands; 3 and 5, the two lymphatic trunks, 3 on the fibular, 5 on the tibial side of the vein; 6, vena saphena parva; 7 and 8, cut edge of the skin, and aponeurosis removed to bring the popliteal glands into view; 9, great trunk on the fibular side of the crus; it follows the contour of the calf, and by its branches furnishes nearly all the trunks on the fibular or outside of the crus; 10-12, bifurcations and branches of 9; 13, 13, trunks on the tibial side of the crus. They curve round to the inner side of the leg, and extend to the inguinal glands; 14 and 16, trunks on the fibular side of the thigh, which wind round the extensor aspect, and then to the inguinal glands (cf. 11 and A); 15, large trunks on the tibial or inside of the knee, on its way from the heel, crus, and thigh, to the inguinal glands; 16 and 17, trunks winding round the thigh in opposite directions to reach the inguinal glands.

paw) demonstrate vessels on the dorsum and great-toe side of the foot. Part of these trunks follow the course of the long saphenous vein, others, usually larger trunks, wind round the calf, with the short saphenous vein, to the popliteal space and enter a popliteal gland (Fig. 3281, 16). In the rabbit, branches extend to the popliteal space from both sides of the crus (Fig. 3286). From the popliteal gland the main efferent vessels in all pass between the peroneal and tibial nerves, and accompany the femoral artery and vein, freely anastomosing with the trunk along the saphenous artery. No inguinal glands are present, and the vessels extend directly to the lumbar glands (Fig. 3281, 22).

LYMPHATIC GLANDS IN THE LEG.—The most distal gland is the anterior tibial, situated on the interosseous ligament near the middle of the crus. Through it pass the ental trunks, following the anterior tibial vessels on their

way to the popliteal glands. This gland is frequently absent. The popliteal glands (*glandula poplitea*, Fig. 3268) are in the fat in the popliteal space. Two are near the surface and receive the lymphatics accompanying the short saphenous vein. Their efferent trunks pass to the two more deeply situated glands around the popliteal blood-vessels; through the deeper ones pass all the ental vessels of the foot and crus and part of those from the knee. The efferent vessels pass with the femoral blood-vessels to the inguinal glands.

Inguinal glands (*glandulae lymphaticae inguinales*, Figs. 3268 and 3269).—There are two layers of these—the ectal or subcutaneous and the ental or subaponeurotic.

The ectal inguinal glands, forming an oblong irregular four-sided figure with one border next Poupart's ligament. The afferent vessels are the ectal lymphatics of the entire leg, the subumbilical part of the body, and the external genitalia. The efferent vessels traverse the cribriform aponeurosis and enter the deep or ental inguinal glands; frequently a few trunks pass into the body cavity and join the iliac glands.

The ental inguinal glands are situated along the femoral artery and vein in the inguinal region and are usually three or four in number, although there may be six or seven. They are covered by the femoral fascia and are in intimate contact with the femoral vessels; one of them is

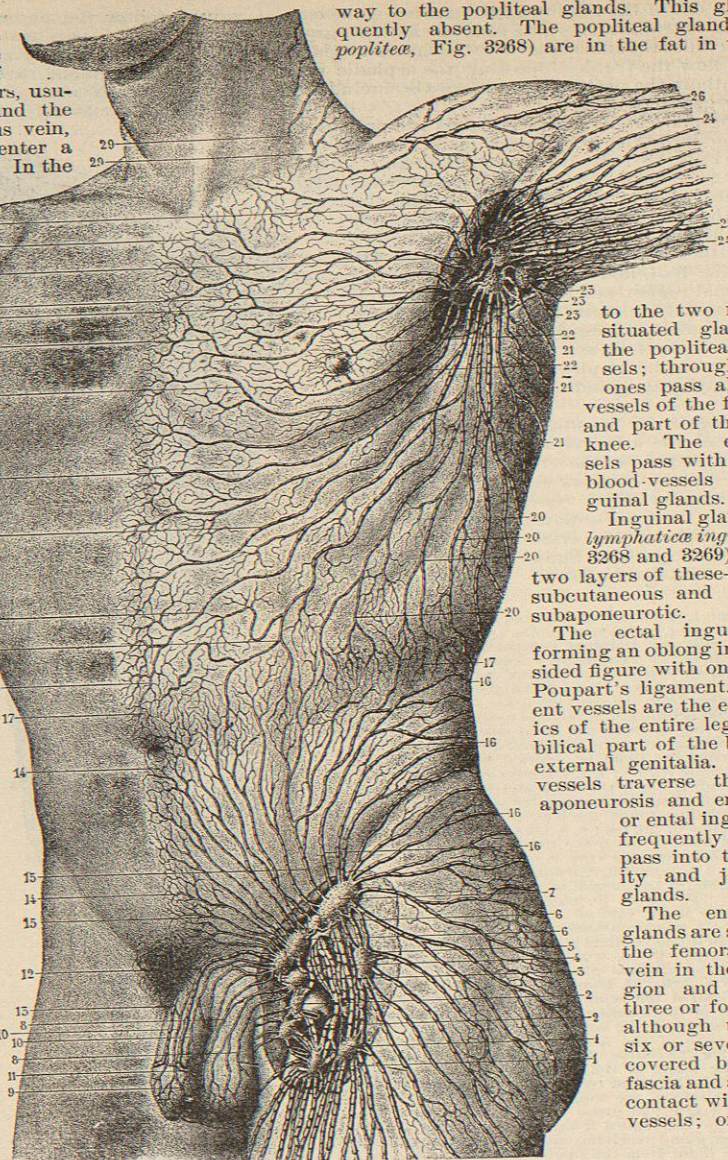


FIG. 3269.—Ectal and Cutaneous Lymphatics of the Trunk and External Genitalia and the Ectal Inguinal and Axillary Glands to which they Extend. The finest network has been omitted for clearness, and the skin is represented as transparent; in the inguinal region it has been removed, and in the axillary region a part of the great pectoral has also been removed to expose the glands. (Sappey, Atlas.) 1, 1, The distal glands of the ectal inguinal group—into these enter nearly all of those from the foot, crus, and thigh; 2, 2, median or inner glands of this group—these come many of the trunks from the tibial or upper and inner aspect of the thigh; 3, gland near the cut end of the vena saphena magna, which receives most of the lymphatics from the median gluteal, the anal, and the perineal regions, and the scrotum; 4, a large gland forming the proximal and median corner of the ectal inguinal group—it receives the lymphatics from the penis, or, in the female, from the clitoris and part of the labia; 5, the lateral or outer gland of this group, receiving many vessels from the thigh; 6, 6, proximal glands next the abdomen—they receive the lymphatics from the ventral subumbilical region; 7, large gland forming the lateral and proximal angle of the inguinal group—to it extend the trunks from the lumbar, gluteal, and partly, also, from the abdominal region; 8, 8, lymphatics of the scrotum; 9, vessels from the prepuce; 10, 10, vessels from the integument of the penis, extending along the lateral and dorsal aspect of the organ; 11, 11, vessel making a circle around the corona of the glans—ordinarily these unite to form a single dorsal vessel, but here they remain separate and extend in a parallel course to the pubis, where each one turns to the corresponding inguinal gland; 12 and 13, the two trunks from the corona of the glans—when these unite into one they bifurcate opposite the pubis and extend to the two sides as do these independent trunks; 14, 14, subumbilical lymphatics of the abdomen—they interdigitate at the ventrimeson with those from the right side of the body, just as is shown by those extending toward the axilla, so that in this intermediate area an injection might fill the vessels going in both directions, although there might be no true anastomoses of the two groups; 15, 15, subumbilical lymphatic trunks; 16, 16, trunks arising from the lumbar and gluteal region; 17, 17, area or zone where the subumbilical and thoracic lymphatics interdigitate; 18, 18, area of interdigitating vessels along the ventrimeson; 19, 19, 19, 19, 19, 19, beginnings of the trunks along the ventrimeson; 20, 20, trunks on the lateral aspect of the thorax on their way to the axillary glands; 21, 21, 21, 21, 21, 21, trunks from the dorsal part of the thorax, on their way to the axillary glands; 22, 22, trunks from the mammary region (cf. Fig. 3274); 23, 23, trunks from the dorsal scapular region; 24, 24, trunks from the arm (cf. Fig. 3267); 25, large trunk from the ectal brachial or supra-epitrochlear glands (cf. Fig. 3267); 26, trunk accompanying the cephalic vein and terminating in the subclavian glands (cf. Fig. 3267); 27, cut through the tissues to bring into view the axillary glands; 28, axillary lymphatic glands—only part of them are exposed; 29, 29, vessels from the dorsal and lateral aspects of the neck—they terminate in the supraclavicular glands.

found almost constantly in the mouth of the inner femoral or crural ring, which, according to Henle, it assists in closing. The afferent vessels of this group are derived from the ental lymphatics of the foot, crus, and thigh (in part); the efferent trunks from the popliteal and most of those from the ectal inguinal glands.

A part of the efferent vessels traverse the abdominal wall with the femoral artery, but most of them accompany the femoral vein through the crural canal. They join the iliac glands, sending a few branches, however, to the hypogastric glands.

In the larger domestic animals (horse and ox) the glands of the leg are about as numerous as in man, but with the cat, dog, and rabbit they are represented only by the popliteal gland, the inguinal glands being absent, unless the gland on the external epigastric vessels may represent the ectal inguinal glands. As the iliac glands are also absent, vessels may pass from the foot (*i.e.*, those accompanying the saphenous artery) directly to the lumbar glands (Figs. 3281, 3284, and 3286).

LYMPHATICS OF THE ABDOMEN AND EXTERNAL GENITALIA.—The ectal lymphatics of the abdomen have three quite sharply defined areas of origin, and from these the vessels extend in opposite directions. The areas are the dorsimeson, the ventrimeson, and a somewhat irregular zone surrounding the body at the level of the umbilicus (Fig. 3269). The vessels cross these boundaries and interdigitate in a complex manner; frequently a puncture made in the boundary will give rise to an injection in both directions, although injections made at either side would inject only the corresponding side. In the lower animals especially investigated for this—cat and opossum—the communication from side to side is more intimate, an injection of one side often filling that of the other. This is especially marked opposite the pubis of the opossum, where there is constantly a large transverse lymphatic, recalling the transverse vessels between the jugular veins.

As seen in Fig. 3269, the lymphatics of the umbilical region of the body extend in the most direct manner on the abdomen to the inguinal or the axillary glands. Those from the lumbar and gluteal regions extend around in great curves, often following the crest of the ilium, to the lateral inguinal glands. Others from the gluteal region curve round the nates to the perineal and anal regions, finally to join the perineal and anal vessels and extend with them to the median glands of the ectal inguinal group.

The lymphatic network around the anal opening is very dense and is continuous with the lymphatics of the rectum. Those of the perineum are less dense. From both these regions the vessels wind round the thigh to the median or inner of the ectal inguinal glands. In the female the number of the trunks from the perineum is reduced apparently in direct proportion to the reduction in area of the region. The lymphatics of the external genitalia of the male are naturally divisible into those of the scrotum and the penis. The vessels of the scrotum are very numerous, perhaps more so than in any other equal area of integument in the body. As in the trunk, the meson—here indicated by the raphe—forms a natural dividing line for the two sides. The vessels extend in great curves, partly to the pubis and partly on the thigh, to enter the median row of ectal inguinal lymphatic glands; those on the thigh communicating with the vessels from the perineum, and those of the pubis with the cutaneous vessels of the penis. The vessels of the integument of the penis, commencing on both surfaces of the prepuce and from the line of the urethra, wind round the two sides to the so-called dorsum of the organ when they extend toward the pubis, and curve laterally toward the two sides to enter the large gland forming the corner of the ectal group (Fig. 3269, 4). The lymphatics of the glans penis are exceedingly numerous, and in several superimposed layers of networks. The collecting trunks converge toward the frænum preputii, where they are joined by the trunks from the urethra.

The urethral lymphatics begin at the prostate, anasto-

mose with the prostatic lymphatics, with the network of the ejaculatory canals, and through them with the *resicula seminales*. They extend to the *meatus urinarius*, forming a hollow cylindrical network of large, densely packed lymphatics (Fig. 3270), which reaches its greatest development opposite the fossa navicularis. Opposite the frænum two or three trunks penetrate the urethral wall and join the trunks from the glans, then penetrate the substance of the penis and reach the dorsal aspect of the *corpus spongiosum*, where the trunks of the two sides usually unite into one, which follows the course of the deep blood-vessels to the pubis, when it again divides, sending a branch to each side, finally to terminate in the large median gland of the ectal inguinal group (Fig. 3269). According to most authors, the urethral and glandular lymphatics of the penis follow the internal pudic blood-vessels into the abdomen and enter the hypogastric glands. But Sappey is very definite, both in his atlas and anatomy, in stating that they enter the large gland forming the corner of the ectal group.¹

The lymphatics of the external genitalia of the female very closely resemble those of the male in their arrangement and termination. The collecting trunks from the clitoris and the surrounding parts extend nearly directly to the pubis, where they curve to the right and left, and terminate in the large median gland forming the corner of the ectal inguinal group, and, according to Krause,² they also communicate with the lymphatics of the round ligament of the uterus.

The lymphatics of the female urethra are less abundant than in the male. The trunks from the urethra, meatus urinarius, labia, and the external or inferior fourth of the vagina extend laterally to reach the vulvocrural fold, in which they wind around the thigh, with a few small trunks from the perineum to the median of the ectal inguinal glands, only a few reaching the large corner gland to which so many from the male genitalia extend.

The ental lymphatics of the abdominal wall and the lumbar part of the trunk follow the deep blood-vessels; part, therefore, extend to the sternal and axillary glands; part, with the deep epigastric vessels, to the iliac glands; part, with the lumbar and ileo-lumbar vessels, to the lumbar glands. Still others follow the circumflex iliac vessels, often traversing one or more glands along the crest of the ilium before finally entering the iliac glands.

With the dog, cat, and rabbit, the lymphatics of the abdominal wall and the external genitalia are as in man, except that the tendency to form anastomoses across the meson is more marked, and that there is constantly present along the external epigastric vessels, about opposite the brim of the pelvis, a considerable gland. To this gland pass the ectal abdominal lymphatics, also part of those from the elongated mam-



FIG. 3270.—Human Penis, opened Longitudinally to show the Urethral Lymphatics. (Sappey, Atlas.) 1, 1, The very abundant longitudinal network of vessels in the urethral mucosa; 2, continuity of the urethral lymphatics with those of the glans at the meatus urinarius; 3, 3, 3, trunks traversing the urethral wall opposite the frænum and joining those of the glans; 4, 4, 4, trunks from the periphery of the glans joining those from the urethra; 5, 5, large trunks formed by the union of the urethral lymphatics and those from the glans; they penetrate the substance of the penis and follow the deep blood-vessels to the pubis, whence, according to Sappey, they extend to the inguinal, but, according to many authors, to the hypogastric lymphatic glands; 6, 6, lymphatics of the integument of the penis.

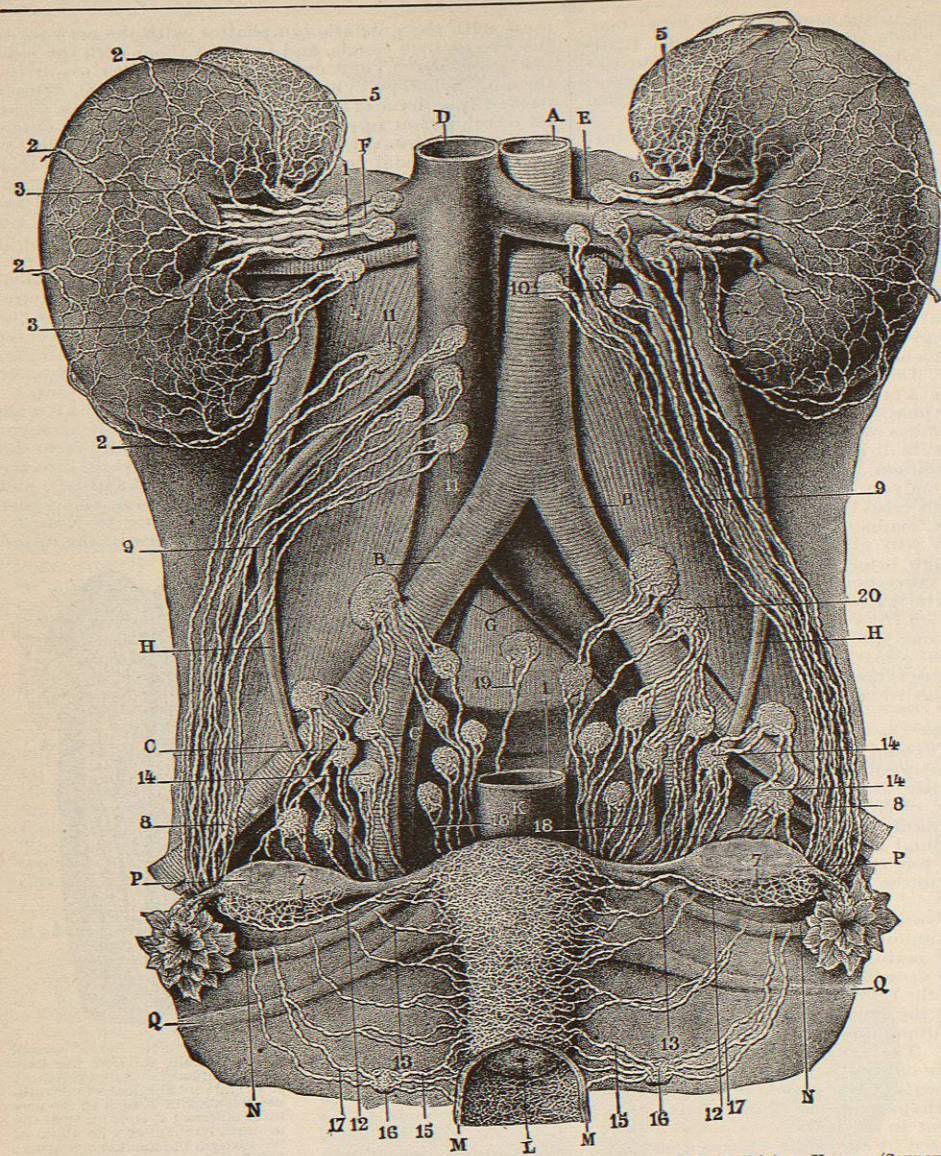


FIG. 3271.—Lymphatics of the Kidneys, Adrenals, and Internal Genitalia of a Girl of Thirteen Years. (Sappey, Atlas.) A, abdominal aorta; B, B, common iliac arteries; C, C, the external and internal iliac arteries formed by the bifurcation of the common iliac; D, post-cava; E and F, left and right renal veins; G, common iliac vein; H, H, ureters; I, cut end of the rectum; K, uterus; L, neck of the uterus (the line points to the os uteri); M, M, cut edge of the vaginal wall; N, N, Fallopian tubes; P, P, ovaries; Q, Q, round ligaments. 1, ental lymphatic trunks from the kidney which extend first to the lateral aspect, and then converge around the surface or ectal lymphatics of the kidney and the glands of the lumbar plexus into which they enter; 2, 2, 2, 2, 1, ental lymphatic trunks from the kidney which extend first to the lateral aspect, and then converge around the surface or ectal lymphatics of the kidney and the glands of the lumbar plexus into which they enter; 3, 3, vessels on the broad surface of the kidney converging directly to the hilus to join the ental lymphatics; 4, gland receiving the ectal lymphatics of the kidney on the right; 5, lymphatic network of the adrenal, it freely anastomoses with that of the kidney, and many of the trunks enter a gland situated in the angle between the adrenal and the kidney on the mesal aspect; 6, lymphatic gland through which pass many of the lymphatics of the adrenal, and some from the kidney; 7, 7, subovarian lymphatic network; it is joined by a large trunk from the base of the uterus, and together they follow the utero-ovarian vein work; 8 and 9, trunks from the subovarian network to lumbar glands at the termination of the ovarian vein; 10, 10, lumbar glands receiving directly to the hilus to join the ental lymphatics of the kidney; 11, 11, glands receiving those from the right; 12, 12, trunks from the base of the uterus to the subovarian network; 13, 13, trunks from the borders and the ventral face of the uterus, they extend to 14, the iliac group of glands; 15, vessels arising from the neck of the uterus, the uterine mucoosa, the vaginal part of the uterus, and from about three-fourths of the extent of the vagina; they extend to 16, the vaginal gland; 17, 17, efferent vessels from the utero-vaginal gland to the iliac glands; 18, 18, vessels from the dorsal part of the neck of the uterus, extending to the hypogastric lymphatic glands; 19, trunk from the neck of the uterus to a gland on the body of the fifth lumbar vertebra; its presence is exceptional; 20, iliac gland receiving an unusual trunk from the neck of the uterus.

mary glands and from the external genitalia. There is another gland along the external epigastric blood-vessels about opposite the umbilicus, in the cat at least. After traversing these glands the efferent vessels either join or accompany the femoral lymphatics to the lumbar glands. In the cat they penetrate the abdominal wall with the epigastric artery, and extend, in part, to the hypogastric, and in part to the lumbar glands (Fig. 3281, 14, 21). The epigastric glands may represent the ectal inguinal glands of man. In the rabbit there is also constantly present a gland on the ilio-lumbar vessels, next the abdominal wall, and along the edges of the sartorius muscle; the efferent vessels pass to the lumbar glands (see 22 of Fig. 3286).

LYMPHATICS OF THE PELVIC AND ABDOMINAL VISCERA.—*Internal genitalia of the male*—testicle, spermiduct, vesiculae seminales, and prostate.—Probably no organ in the masculine body is more richly supplied with lymphatics than the testicle. Those of the albuginea are sometimes described as the ectal lymphatics of the testis.

They are only moderately numerous, and extend upon the spermiduct to join those from the testicle proper. Those of the testicle proper follow the seminal tubules to the epididymis, and joining those of the epididymis extend with the spermatic cord through the inguinal canal. After reaching the body cavity they

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