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Summary. Blood vascular beds of the rat pituitary intermediate lobes were reproduced by injection of low viscosity methacrylate media, and then observed with a scanning electron microscope. Although the intermediate lobes of newborn and pubescent rat were poorly vascularized, the adult rat intermediate lobe contained numerous capillaries forming a fairly independent network whose density, however, was not so great as in the anterior and posterior lobes. The vascular network of the intermediate lobe could be divided into two parts: a superficial plexus close to the anterior lobe, and a deep one close to the posterior lobe, though the two plexuses were continuous with each other. The superficial plexus consisted of anastomosing capillaries, and the deep one of non-anastomosing capillaries with a pallisade-fashioned arrangement. The superficial plexus seemed crucially important for the blood supply of the intermediate lobe since it developed or thickened as the animals aged. The superficial plexus received its proper afferent vessels from the middle and posterior hypothalamic arteries and emitted its proper efferent vessels continuous with the sinusoidal capillaries of the anterior lobe. The capillaries of the deep plexus usually communicated with the arterial capillaries of the posterior lobe and possibly represented another afferent route to the superficial plexus. This paper, thus, strongly suggests a portal circulation from the intermediate lobe to the anterior lobe though its functional significance is unknown.
general, the capillary beds of the posterior and intermediate lobes formed a common unit, and thus the arterial supply and venous drainage of the intermediate lobe was identical with those of the posterior lobe. This view seems to be widely accepted by many later investigators, including some endocrinologists (Negm, 1971; Terneby, 1972). However, our recent scanning electron microscope study of cast samples has suggested that the capillary bed of the rat intermediate lobe is a fairly independent unit, one with a constant portal drainage into the anterior lobe (Murakami, 1975). This paper relates the details of this portal system and also shows some age-related vascular differences in the intermediate lobe.

MATERIALS AND METHODS

Male newborn, pubescent and adult Wistar rats (weighing 20–25 g, 100–150 g, and 250–500 g, respectively) were anesthetized with ethyl ether. The right cardiac atrium was incised, and the ascending aorta was cannulated after the ligation of the thoracic aorta. The animals were then perfused with physiological saline through the cannulated aorta. Immediately after perfusion, laboratory-prepared low viscosity methacrylate media, including a monomeric methyl and hydroxypropyl methacrylate mixture, were infused into the cannulated aorta until the superior vena cava was filled (Murakami, 1971, 1975; Murakami et al., 1984). For administration of the monomeric mixture, glutaraldehyde perfusion fixation was inserted prior to its infusion (Murakami et al., 1984).

The methacrylate-infused animals were placed in a hot water bath (60°C), digested in a hot 10% NaOH solution (60°C), washed in water and dried in the air (Murakami, 1971, 1975; Murakami et al., 1984). The dried vascular casts thus prepared were mounted on metal stubs, coated with gold in an ion coater (IB-3, Eiko) and observed with a scanning electron microscope (HHS-2R, Hitachi) using an acceleration voltage of 5 kV (Murakami, 1971, 1975; Murakami et al., 1984). At various stages of this process, the casts were dissected repeatedly under a binocular light microscope (SMZ-10, Nikon) with sharpened knives, forceps or needles for isolation of the parts of the casts and for exposure of regions of interest (Murakami, 1975; Murakami et al., 1984). Furthermore, some of the casts were frozen in water and cut so that sharp and clear surfaces could be produced.

RESULTS

Thorough infusion of laboratory-prepared low viscosity methacrylate media through the ascending aorta reproduced whole blood vascular beds of the newborn, pubescent and adult rat pituitary glands, together with their connecting arteries and veins (Fig. 1–4). Dissections and frozen cuttings, especially repeated dissections, of these fully injected casts followed by scanning electron microscopy allowed long range viewing and also a clear analysis of the blood vascular beds or networks of the pituitary intermediate lobes intricately intercalated between those of the anterior and posterior lobes (Fig. 2–9).

The pituitary intermediate lobes of the newborn and pubescent rats were poorly vascularized. In the newborn rats, few vessels or capillaries were reproduced between the vascular beds of the anterior and posterior lobes (Fig. 3C). In the pubescent rats,
a small number of capillaries was cast only in the caudal areas between the anterior and posterior lobes (Fig. 3B). In the adult rats, on the other hand, a number of capillaries was reproduced in all areas, including the rostral ones, between the anterior and posterior lobes (Fig. 3A, 4). In any of the pubescent and adult rats, the vessels or capillaries between the anterior and posterior lobes (or of the intermediate lobe) formed a network, whose density, however, was not so great as in the anterior and posterior lobes (Fig. 3-9).

In both the adult and pubescent rats, the blood vascular network of the intermediate lobe could be divided into two parts: a superficial (or ventral) plexus close to the anterior lobe, and a deep (or dorsal) one close to the posterior lobe, though these

Table 1. Abbreviations in Figure 1–10

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Blood vascular bed of the pituitary anterior lobe</td>
</tr>
<tr>
<td>C</td>
<td>Hypophyseal cleft</td>
</tr>
<tr>
<td>E</td>
<td>Caudal end of the blood vascular bed of the posterior lobe</td>
</tr>
<tr>
<td>F</td>
<td>Dissected fragment of vascular cast</td>
</tr>
<tr>
<td>I</td>
<td>Blood vascular bed of the pituitary intermediate lobe</td>
</tr>
<tr>
<td>L</td>
<td>Leakage of the infused methacrylate resin</td>
</tr>
<tr>
<td>P</td>
<td>Blood vascular bed of the pituitary posterior lobe</td>
</tr>
<tr>
<td>S</td>
<td>Blood vascular bed of the pituitary neural stalk</td>
</tr>
<tr>
<td>Id</td>
<td>Deep or dorsal plexus of the pituitary intermediate lobe blood vascular bed</td>
</tr>
<tr>
<td>Is</td>
<td>Superficial or ventral plexus of the pituitary intermediate lobe blood vascular bed</td>
</tr>
<tr>
<td>Ma</td>
<td>Blood vascular bed of the median eminence (anterior segments)</td>
</tr>
<tr>
<td>Mp</td>
<td>Blood vascular bed of the median eminence (posterior segments)</td>
</tr>
<tr>
<td>dA</td>
<td>Deep capillary plexus of the anterior lobe</td>
</tr>
<tr>
<td>dS</td>
<td>Dorsal plexus of the pituitary neural stalk blood vascular bed</td>
</tr>
<tr>
<td>dP</td>
<td>Deep plexus of the pituitary posterior lobe blood vascular bed</td>
</tr>
<tr>
<td>sA</td>
<td>Dorsal surface capillary plexus of the anterior lobe</td>
</tr>
<tr>
<td>sP</td>
<td>Ventral surface plexus or capillaries of the pituitary posterior lobe blood vascular bed</td>
</tr>
<tr>
<td>vS</td>
<td>Ventral plexus of the pituitary neural stalk blood vascular bed</td>
</tr>
<tr>
<td>b</td>
<td>Terminal twig of the long- or middle-ranged (neuro-adeno-) hypophyseal portal vessel (see below)</td>
</tr>
<tr>
<td>h</td>
<td>Hypothalamic ascending vessel. Our dissection has indicated that this kind of ascending vessel directly arises from an arterial branch in the median eminence (Murakami, 1975; Murakami et al., 1984) though Page and his associates (1978), who omitted careful dissection, denied or ignored it. The details will be reported elsewhere.</td>
</tr>
<tr>
<td>t</td>
<td>Arterial terminal in the ventral surface plexus of the pituitary posterior lobe blood vascular bed</td>
</tr>
<tr>
<td>aa</td>
<td>Anterior hypophyseal artery and its branches</td>
</tr>
<tr>
<td>av</td>
<td>Efferent vein of the pituitary anterior lobe and its branches</td>
</tr>
<tr>
<td>hv</td>
<td>Hypothalamic vein</td>
</tr>
<tr>
<td>ia</td>
<td>Arterial or efferent vessel of the pituitary intermediate lobe blood vascular bed</td>
</tr>
<tr>
<td>id</td>
<td>Capillary of the deep plexus of the pituitary intermediate lobe blood vascular bed</td>
</tr>
<tr>
<td>ie</td>
<td>Venous or efferent vessel of the pituitary intermediate lobe blood vascular bed</td>
</tr>
<tr>
<td>is</td>
<td>Capillary of the superficial plexus of the pituitary intermediate lobe blood vascular bed</td>
</tr>
<tr>
<td>lp</td>
<td>Long-ranged (neuro-adeno-) hypophyseal portal vessel which originates in the anterior segments of the median eminence and descends, from the antero-ventral aspects, into the anterior lobe</td>
</tr>
<tr>
<td>ma</td>
<td>Middle hypophyseal artery and its branches</td>
</tr>
<tr>
<td>mp</td>
<td>Middle-ranged (neuro-adeno) hypophyseal portal vessel which originates in the neural stalk and the posterior segments of the median eminence and descends, from the antero-latero-dorsal aspects, into the anterior lobe</td>
</tr>
<tr>
<td>pa</td>
<td>Posterior hypophyseal artery and its branches</td>
</tr>
<tr>
<td>pe</td>
<td>Efferent vein of the pituitary posterior lobe</td>
</tr>
<tr>
<td>dsp</td>
<td>Dorsal short-ranged (neuro-adeno-) hypophyseal portal vessel which dorsally links the blood vascular beds of the posterior and anterior lobes</td>
</tr>
<tr>
<td>vsp</td>
<td>Ventral short-ranged (neuro-adeno-) hypophyseal portal vessel which anteriorly links (anterior to the hypophyseal cleft) the blood vascular beds of the posterior and anterior lobes. This vessel also receives the ventro-lower plexus of the neural stalk blood vascular bed.</td>
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Fig. 1. Scanning electron micrograph of rat pituitary blood vascular casts, prepared by injection of a low viscosity methacrylate medium (280 g male adult rat, ventral view). Note that the blood vascular beds of the pituitary anterior lobe (A) and median eminence (Ma) are fully reproduced. aa, av, hv, lp, ma, and pa (see Table 1). × 35
Fig. 2. Scanning electron micrograph of the rat pituitary methacrylate blood vascular casts (300 g male adult rat, dorsal view of a part of Fig. 2, MURAKAMI et al., 1984, with permission of Prof. T. FUJITA, editor of Arch. histol. jap.). Note that the blood vascular bed of the posterior lobe (P) is fully reproduced together with that of the anterior lobe (A). Some lateral capillaries of the intermediate lobe (I) can be seen between the vascular beds of the anterior and posterior lobes. S, Mp, ma, mp, pa, pe, and dsp (see Table 1). ×75
two plexuses were continuous with each other (Fig. 5A, B). The deep plexus consisted of fine capillaries arranged in a pallisade-fashion with few anastomoses among them (Fig. 5A, B). These deep capillaries ran dorsally, usually continuing into the arterial capillaries (more strictly, the capillaries close to the arterial terminals) in the ventral surface of the posterior lobe (Fig. 5A, B, 7A–C). Rarely, however, the deep capillaries exclusively in the rostro-ventral or latero-ventral surface of the posterior lobe communicated with venous capillaries draining into the ventral and dorsal short-ranged hypophyseal portal vessels (Fig. 7B, Table 1). The superficial plexus consisted of freely anastomosing capillaries (Fig. 5A, B). In the pubescent and 250–300 g rats, the superficial plexus was thin and usually formed a single layer (Fig. 5A, 8A, B). In the 400–500 g adult rats, the superficial plexus was rather thick and formed at least three or more layers with an increased number of capillaries (Fig. 5B, 6, 7A–C). Through the animal groups, including the pubescent rats, the most caudal segment of the superficial plexus was best developed. Therefore, even in the pubescent and 250–300 g rats, the most caudal segment consisted of three- or more-layered capillaries (Fig. 3A).

The capillaries of the intermediate lobe also thickened as the animals aged. In the pubescent and adult rats, the capillaries of the superficial and deep plexus were rather slender and they were usually smaller in caliber than those of the posterior lobe (Fig. 5A, B). In the 400–500 g rats, the capillaries, especially those of the superficial plexus, were more or less dilated (Fig. 5B, 7A, B). In some typical cases of 500 g adult rats, many capillaries, especially the most ventral ones, of the superficial plexus were markedly dilated and were similar in caliber to those of the sinusoidal capillaries of the anterior lobe (Fig. 7A).

The capillary network of the intermediate lobe always received arterial or afferent vessels from the middle and posterior hypophyseal arteries. Throughout our observations of the newborn, pubescent and adult rats, it was a constant finding that some branches of the middle and posterior hypophyseal arteries ran from the rostro-dorsal and caudal aspects into the hypophysis, to supply, from the ventral aspects, the capillary plexuses of the posterior lobe. In the adult rats, these branches of the hypophyseal arteries gave off, in or beneath the ventral surface of the posterior lobe, many accessory or faint twigs (afferent vessels of the intermediate lobe). These ran into the intermediate lobe and continued directly (with few connections with the deep plexus of the intermediate lobe) into the superficial plexus of the intermediate lobe (Fig. 6, 7A–C). Though varying in each case, the branches of the posterior hypophyseal arteries were usually better developed than those of the middle hypophyseal arteries. Thus, the caudal two-thirds of the superficial plexus of the intermediate lobe usually received its afferent vessels from the branches of the posterior hypophyseal arteries, and the remaining rostral one-third from the branches of the middle hypophyseal arteries. Moreover, the well-developed or most caudal segment of the

**Fig. 3.** A–C. Scanning micrographs of sagitally frozen-cut surfaces of the rat pituitary blood vascular casts (A: 300 g adult male rat, B: 120 g male pubescent rat, C: 25 g male newborn rat). Note in Fig. A that the intermediate lobe of the adult rat is provided with its own or proper capillary network (I) which extends in all areas (from the caudal end to the rostral end) between the capillary beds of the anterior (A) and posterior (P) lobes, and in Figure B that the pubescent rat intermediate lobe only contains a poorly developed capillary network (I) in its caudal end or segment. Note in Figure C that, in the newborn rat, few vessels or capillaries are reproduced between the vascular beds of the anterior (A) and posterior (P) lobes, though the latter two beds are fully reproduced. E, S, ia, lp, ma, mp, pa, and pv (see Table 1). A: ×65, B: ×40, C: ×45
Fig. 3. A–C. Legend on the opposite page.
Fig. 4. Caudal view of the rat pituitary methacrylate blood vascular casts (400 g male adult rat). Note that the caudal capillary network of the intermediate lobe (I) receives its afferent vessels (ia) from the branches of the posterior hypophyseal arteries (pa) and emits its efferent vessels (ie) which continue into caudal surface capillaries of the anterior lobe (A). P, pv (see Table 1). × 80
superficial plexus of the intermediate lobe received in its caudal surface some additional afferent twigs from the posterior hypophyseal arteries (Fig. 4). The only caudally observed capillary network of the pubescent rat intermediate lobe was provided with such additional efferent vessels draining at the caudal surface of the anterior lobe into the sinusoidal capillaries of the anterior lobe.

The vascular network of the intermediate lobe always continued into the sinusoidal capillaries of the anterior lobe. In the adult rats, the superficial capillaries of the intermediate lobe converged into several thick venous vessels (Fig. 6, 7A, C, 8A, B). These venous or efferent vessels ran caudally in the superficial plexus (Lv) of anastomosing capillaries and the deep or dorsal plexus (Id) of non-anastomosing vessels with a pallisade-fashioned arrangement. Also note that the ventral plexus of the 400 g rat is thick-layered or widened with an increased number of capillaries (B) in contrast to the rather thin-layered ventral plexus of the 300 g rat (A). A, P, and sP (see Table 1). A, B: x 200

Fig. 5. A and B. Sagitally frozen-cut surfaces of the rat pituitary blood vascular casts (A: closer view of a part of Figure 3A, B: 400 g male adult rat). Note in Figures A and B that the vascular bed or network of the intermediate lobe (I) can be divided into the superficial or ventral plexus (Lv) of anastomosing capillaries and the deep or dorsal plexus (Id) of non-anastomosing vessels with a pallisade-fashioned arrangement. Also note that the ventral plexus of the 400 g rat is thick-layered or widened with an increased number of capillaries (B) in contrast to the rather thin-layered ventral plexus of the 300 g rat (A).
Fig. 6. Legend on the opposite page.
DISCUSSION

The present scanning electron microscopic study of vascular casts shows that the capillary bed of the rat pituitary intermediate lobe begins to develop after birth, and that thorough extension of this capillary bed from the caudal to the rostral end of the intermediate lobe is completed after puberty. The present study also shows that the capillary bed of the intermediate lobe, regardless of its development or extension, is divided into the superficial plexus close to the anterior lobe and a deep one close to the posterior lobe, though these two plexuses are continuous with each other. The superficial plexus may be more important in supplying the intermediate lobe, as this plexus consists of anatomicosing capillaries and is more thickened as the animal is ages (or rather, the intermediate lobe is more proliferated or thickened).

It has been sometimes contended by conventional light microscopy with India ink or other dye injected specimens of various animals, including the rat, that the blood vascular beds of the intermediate and posterior lobes form a common unit sharing both arterial supply and venous drainage (Landsmeer, 1951; Daniel and Prichard, 1957a; Wingstrand, 1966). The present scanning microscopy of cast samples, however, shows that the capillary bed, especially the superficial plexus of the rat intermediate lobe, is a fairly independent system, which directly receives the arterial twigs from the middle and posterior hypophyseal arteries and emits the venous vessels directly continuous with the capillary bed of the anterior lobe. This vascular route between the intermediate and anterior lobes (or within the adenohypophysis) satisfies a category of the portal system, and may be referred to as an "intra-adenohypophyseal portal system" in contrast to the well-known neuro-adenohypophyseal portal system which originates in the median eminence/neural stalk/neural lobe (posterior lobe) and enters, from rather external aspects, into the anterior lobe (Fig. 1, 2, Table 1) (Green, 1951, 1966; Page et al., 1976; Page and Bregland, 1977). The intra-adenohypophyseal portal system and its relation to the neuro-adenohypophyseal portal system are schematically diagramed in Figure 10.

Previous India ink or other dye injection studies of the sheep, rat and some other animals with conventional light microscopes have shown that overflows of the injected India ink or other dye from the vascular beds of the intermediate and posterior lobes into the anterior lobe are along the periphery of the intermediate lobe, and suggest the possible existence of three kinds of vessels in this portion: (1) vessels running in front of the rostral margin of the intermediate lobe; (2) vessels passing around the lateral margins of the intermediate lobe; (3) vessels running through the caudal seg-

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Fig. 6. Isolated and dissected blood vascular casts of the rat intermediate and posterior lobes (450 g male adult rat, right-sided latero-ventral view). Note that the vascular network (I) or capillaries (ii) (more strictly, the capillaries of the superficial plexus, see text) of the intermediate lobe directly receive arterial twigs (arrows) from the branches of the middle hypophyseal arteries (ma) and emits a well-developed or thick efferent vessel (ie or small arrow heads) which runs latero-caudally and continues into the dissected remnants of the latero-dorso-caudal sinusoidal vessels of the anterior lobe (A). The rostral half of the vascular network of the intermediate lobe was removed by dissection for thorough exposure of this efferent vessel. The inset shows a further dissected form of the vessel indicated by a large arrow head. This dissection clearly confirms that the arrow-head-indicated vessel is an afferent vessel of the intermediate lobe. E, S, dP, sP, pa, pn, and dsp (see Table 1). x100. Inset: x70
Fig. 7. A-C. Legend on the page 83.
Fig. 7. A–C. Legend on the page 83.
ments of the hypophyseal cleft at such places where the anterior and intermediate lobes fuse (Landsmeer, 1951; Daniel and Prichard, 1957a; Wingstrand, 1966). Similar channels have also been reported in some experimental studies of the monkey, sheep, goat, and rat where the neural stalk was cut (Daniel and Prichard, 1958; Holmes and Zuckerman, 1959) or the anterior or posterior lobe was infarcted prior to the dye injection (Daniel and Prichard, 1956, 1957b). The present study may confirm the existence of those (1)–(3) vessels of the previous authors; the (1) vessels may be identical with the ventral short-ranged hypophyseal portal vessels (Table 1), the (2) vessels with the dorsal

Fig. 7. A–C. Legend on the opposite page.
short-ranged hypophyseal portal vessels (Table 1), and (3) vessels with our intra-adeno-
hypophyseal portal vessels or efferent vessels of the intermediate lobe (see above).

The blood stream in the herein designated intra-adenohypophyseal portal system
under natural conditions may be directed from the intermediate lobe to the anterior
lobe since the superficial plexus of the intermediate lobe is directly supplied with the
arterial branches. On the other hand, the capillaries of the deep plexus usually end
or originate in the arterial capillaries in the ventral surface of the posterior lobe. This
may suggest that, even in the deep plexus, the blood stream is usually directed toward
the intermediate lobe to finally drain into the anterior lobe. The blood in the rostral
and lateral capillaries of the deep plexus may also flow via the ventral and dorsal
short-ranged portal vessels into the anterior lobe.

As discussed above, the capillary bed of the intermediate lobe may be principally
important to nourish the intermediate lobe. Other functional significances have been
hardly ever postulated. However, it is interesting that a thorough blood supply of the
intermediate lobe is established only after puberty. This may suggest that the inter-
mediate lobe becomes active or begins to effectively function after puberty. It is also
worthy of attention that the superficial capillaries, especially the most ventral ones,
probably those facing the hypophyseal cleft of the intermediate lobe, sometimes show
marked sinusoidal dilations. These dilated vessels may mediate the absorption of the
colloid in the hypophyseal cleft. It has been well confirmed that the intermediate lobe

Fig. 7. A. Isolated and dissected blood vascular casts of the rat pituitary intermediate and posterior
lobes (500 g male adult rat, left-sided latero-ventral view). Note that a branch (pa) of a
posterior hypophyseal artery runs on or in the ventral surface capillary plexus of the post-
erior lobe (sP) and emits an afferent vessel (ia or small arrowheads) to the capillary bed of
the intermediate lobe (I). Also note that the most ventral or superficial capillaries (is) of
the intermediate lobe are markedly dilated and much thicker than the capillaries of the pos-
terior lobe. It should be further noted that the superficial capillaries of the intermediate lobe
send off many fine vessels (id, capillaries of the deep plexus of the intermediate lobe, see
text) which communicate with the ventral surface capillaries of the posterior lobe (large
arrow heads). E, F, L, S, ie, ma, pa, and dsp (see Table 1). ma (see Fig. 7B), pa (see Fig.
7C). x 90. B. Closer view of the upper part of Fig. 7A. Note that the ventral or superficial
capillaries (is, see text) of the intermediate lobe (I) receive the afferent vessels (ia or small
arrow heads) from the branches of the middle hypophyseal arteries (ma, ma) and send off
the communication capillaries (id, capillaries of the deep plexus of the intermediate lobe, see
text) to the ventral surface capillary bed of the posterior lobe (sP). Also note that the
upper two communication capillaries (id) directly continue into an original twig (sP) of the
ventral short-ranged portal vessels (sP) (see Table 1), and that the lower two communica-
tion capillaries (id) directly end in the arterial terminals (t). The arterial branches marked
ma are the branches of the ma artery in Figure 7A. This was confirmed by dissection (data,
not shown). F and L (see Table 1). x 250. C. Further dissected form of the lower part of
Figure 7A. Note that a branch of the posterior hypophyseal artery (pa, see also pa branch
in Fig. 7A) runs beneath the ventral surface (sP) of the posterior lobe, and sends off an
arterial twig (ia, or small arrow heads, afferent vessel of the intermediate lobe) which
penetrates the ventral surface plexus of the posterior lobe and continues into the superficial
capillaries (is) of the intermediate lobe (I). The ia labelled afferent vessels of the inter-
mediate lobe also arise within the posterior lobe from the pa arterial branch. The direct
originations of the ia vessels in the pa branch were confirmed by successive of later dissec-
tions (data, not shown). Also note that one of the deep capillaries (id) of the intermediate
lobe vascular bed continues into the ventral surface capillaries of the posterior lobe (large
arrow head). dP Deep capillary plexus of the posterior lobe exposed by dissections. ie (see
Table 1). x 140
contains many nerve endings with or without neuro-secretory granules (Kurosaki et al., 1961; Wingstrand, 1966; Stoll et al., 1984). It may be possible that some of the substances released by these nerve endings are conveyed, via the intra-adenohypophyseal portal vessels, into the anterior lobe to regulate this lobe. It may be also possible that hormonal substances such as MSH or intermedin in the intermediate lobe act on the anterior lobe via the intra-adenohypophyseal portal vessels.

Fig. 8. A and B. Terminations of the efferent vessels of the intermediate lobe vascular bed (350 g adult male rat, dorsal view of the dorso-caudal segments). The vascular bed of the posterior lobe and the afferent vessels and deep or communication capillaries of the intermediate lobe were removed by dissection, so that the superficial capillaries (is), efferent vessels (ie) of the intermediate lobe and the capillary bed (sA, dA) of the anterior lobe are only observed in the Figure A and B. Fig. B shows a further dissected form of Fig. A. Note that the superficial capillaries of the intermediate lobe (is) converge into the efferent vessels (ie) which continue into the sinusoidal capillary bed of the anterior lobe (sA) (A), and that some of the terminal twigs (arrow head) of the upper efferent vessel pass deep into the capillary bed of the anterior lobe (dA). L, b (see Table 1). A, B: x150
Fig. 9. A and B. Thick efferent vessels of the intermediate lobe capillary bed. Note in Fig. A that some main twigs of an efferent vessel (ie) of the intermediate lobe vascular bed penetrate the dorsal surface plexus of the anterior lobe (sA) and run deep into the posterior lobe to supply the deep sinusoidal capillaries of the anterior lobe (dA) together with the branches (b) of the long- or middle-ranged portal vessels (see Table 1). Fig. B shows an isolated unit of the intra-adenohypophyseal portal system (see text). Confirm in this Figure that the capillaries (is) (more strictly, capillaries of the superficial plexus) of the intermediate lobe converge into an efferent vessel (ie) which drains into the superficial (sA) and deep (dA) sinusoidal capillaries of the anterior lobe. Arrowhead in Fig. B indicates a branch of the efferent vessel, and the arrow a branch of a long-ranged hypophyseal portal vessel (see Table 1). A: ×200, B: ×100
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