ANNALES
UNIVERSITATIS MARIAE CURIE-SKŁODOWSKA
LUBLIN—POLONIA
VOL. XXI, 1 SECTIO D 1966

Katedra i Zakład Anatomii Prawidłowej. Wydział Lekarski. Akademia Medyczna w Lublinie
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Various Patterns of the Branching of the Axillary Artery in *Macacus rhesus* and *Macacus cynomolgus*

Zmienność odejścia gałęzi tętnicy pachowej u *Macacus rhesus* i *Macacus cynomolgus*

This paper is a continuation of our observations on the vascular system of the fore limb in *Macacus* monkeys. Our previous reports dealt with the brachial artery and arteries of the forearm and hand in *Macacus rhesus* (14, 15, 16). The present paper gives the results of our studies dealing with various patterns of branching of the axillary artery.

Investigations were carried out on 200 and 100 fore limbs in 100 *Macacus rhesus* and in 50 *Macacus cynomolgus*, respectively. Blood vessels were injected with different contrast mixtures. Dissections were carried out by routine methods, and observations were made with a binocular magnifying lens. Linear measurements were made with nonius.

RESULTS

The branches of the axillary artery in *Macacus rhesus* and *Macacus cynomolgus* fall into two portions: medial and lateral. The medial portion is formed by thoraco-acromial and lateral thoracic arteries, and the lateral portion is made up by the subscapular and the anterior and posterior circumflex humeral arteries. The mode of arrangement of each branch greatly varied in both portions.

Five patterns were distinguished in the arrangement of branching of the medial portion. They will be called types.

Type I. It included cases in which the thoraco-acromial and lateral thoracic arteries arose by the medial trunk (Fig. 1a). The trunk emerged from the anterior or antero-lower circumference of the axillary artery. The site of its emergence was at an average distance of 11 mm from the origin of the axillary artery, the shortest and the longest distances being 4 and 24 mm, respectively. The average length of the medial trunk was 2.3 mm. The shortest and the longest medial trunks were 1 and

3.8 mm. Of the two branches formed by division of the medial trunk, the lateral thoracic artery was usually thicker. This pattern was found to occur in 121 cases in *Macacus rhesus* (60.5% ± 3.46) and in 63 cases in *Macacus cynomolgus* (63.0% ± 4.81).

Type II. The axillary artery gave rise separately to the thoraco--acromial and lateral thoracic arteries (Figs. 1b, 4). It occurred in 45 cases in *Macacus rhesus* (22.5% ± 2.95) and in 17 cases in *Macacus cynomolgus* (17.0% ± 3.76).

Type III. The thoraco-acromial artery arose from the superior branch of the lateral thoracic artery (Fig. 1c). It was much thinner than the

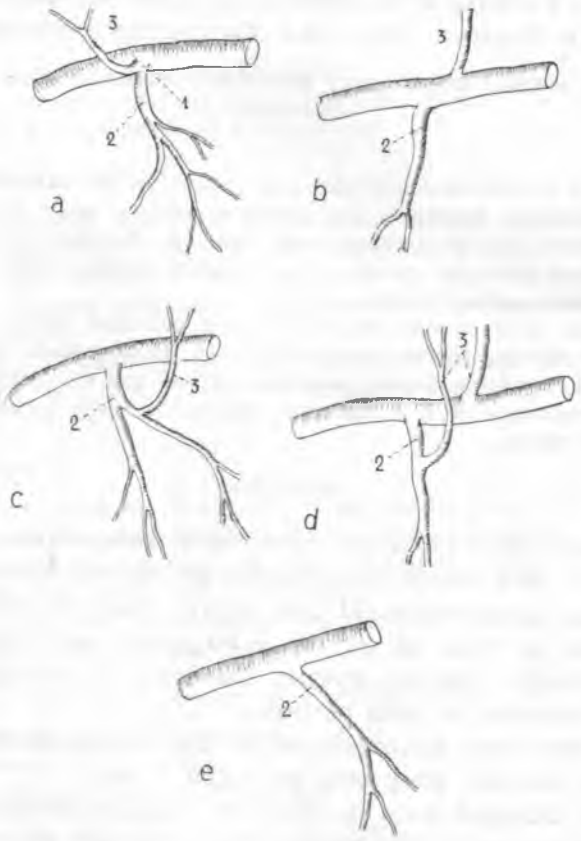

Fig. 1. The types of departure of thoraco-acromial and lateral thoracic arteries in *Macacus*. Explanations: 1 — *truncus medialis arteriae axillaris*, 2 — *a. thoracica lateralis*, 3 — *a. thoraco-acromialis*, 4 — *truncus lateralis arteriae axillaris*, 5 — *a. circumflexa humeri anterior*, 6 — *a. circumflexa humeri posterior*, 7 — *a. subscapularis*, 8 — *a. thoracodorsalis*, 9 — *a. circumflexa scapulae*, 10. — *a. profunda brachii*

lateral thoracic artery. This type occurred in 5 cases in *Macacus rhesus* (2.5% ± 1.10) and in 2 cases in *Macacus cynomolgus* (2.0% ± 1.40).

Type IV. One branch of the thoraco-acromial artery arose from the lateral thoracic artery and the other directly from the axillary artery (Figs. 1d, 5). This pattern was found in 11 cases in *Macacus rhesus* (5.5% ± 1.61) and in 7 cases in *Macacus cynomolgus* (7.0% ± 2.55).

Type V. The thoraco-acromial artery arose from the branches of the subclavian artery (Figs. 1e, 6). This pattern was found in 18 cases in *Macacus rhesus* (9.0% ± 2.02) and in 11 cases in *Macacus cynomolgus* (11.0% ± 3.13).

Table 1 presents the occurrence rate of each type of the thoraco--acromial artery and of the lateral thoracic artery in *Macacus* monkeys according to sex and side of the body.

Table 1. The types of departure of thoraco-acromial and lateral thoracic arteries in *Macacus*

Types	*Macacus rhesus*					*Macacus cynomolgus*				
	♂		♀		♂+♀	♂		♀		♂+♀
	R %	L %	R %	L %	Together %	R %	L %	R %	L %	Together %
I	15.0	15.5	14,5	15,5	60,5	14,0	15,0	16,0	18,0	63,0
II	6 0	6,5	5,5	4,5	22,5	5,0	4,0	5,0	3,0	17,0
III	0.5	0 5	1,0	0,5	2,5	1,0			1,0	2,0
IV	1,5	1,0	1,0	2,0	5,5	2,0	2,0	2,0	1,0	7,0
V	2,0	1,5	3,0	2,5	9.0	2,0	3,0	3,0	3,0	11,0

The mode of distribution of the arteries of the lateral portion involved also 5 patterns (types).

Type A. This type occurred in 133 cases in *Macacus rhesus* (66.5% ± 3.34) and in 59 cases in *Macacus cynomolgus* (59.0% ± 4.92). The branches of the lateral portion of the axillary artery arose by the lateral trunk (Figs. 2a-e, 4, 5, 7). This trunk, thicker than the medial one, extended from the posterior or postero-inferior circumference of the axillary artery. It was situated at an average distance of 23 mm from the origin of the axillary artery, the shortest and the longest distances being 15 and 35 mm, respectively. The average distance between the lateral trunk and medial trunk was 11 mm. The average length of the lateral trunk was 2.1 mm, the shortest and the longest lateral trunks being 1 and 4 mm, respectively.

Type A divided into 5 subtypes according to the division of the lateral trunk.

Subtype 1. The lateral trunk divided into the subscapular artery and the common trunk for the circumflex humeral arteries (Figs. 2a, 4). It occurred in 94 cases in *Macacus rhesus* (47.0% ± 3.53) and in 44 cases in *Macacus cynomolgus* (44.0% ± 5.89).

Subtype 2. This subtype, a variant of the preceding one, was only peculiar in that the *profunda brachii* artery arose from the lateral trunk (Fig. 2b). This variant was found in 5 cases in *Macacus rhesus* (2.5% ± 1.10) and in 2 cases in *Macacus cynomolgus* (2.0% ± 1.40).

Subtype 3. The lateral trunk first gave off the anterior circumflex humeral artery and, next, divided into the posterior circumflex humeral artery and the subscapular artery (Fig. 2c). This variant occurred in 30 cases in *Macacus rhesus* (15.0% ± 2.52) and in 10 cases in *Macacus cynomolgus* (10.0% ± 3.00).

Subtype 4. It occurred only in one case of *Macacus cynomolgus* (1.0% ± 0.99). It differed from subtype 3 only by a common emergence of the anterior circumflex humeral artery together with the *profunda brachii* artery arising from the lateral trunk (Fig. 2d).

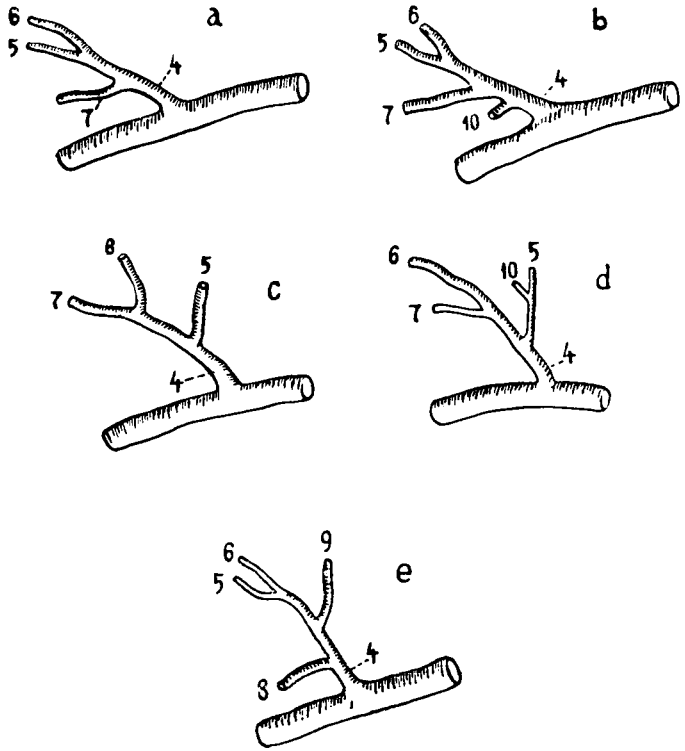

Fig. 2. The types of departure of subscapular and circumflex humeral anterior and posterior arteries in *Macacus*. For explanations see Fig. 1

Subtype 5. The lateral trunk first gave off the thoraco-dorsal artery and, next, divided into the circumflex scapular artery and the common trunk for the circumflex humeral arteries (Fig. 2e). It occurred in 4 cases in *Macacus rhesus* (2.0% ± 0.99) and in 2 cases in *Macacus cynomolgus* (2.0% ± 1.40).

Type B occurred in 54 cases in *Macacus rhesus* (27.0% ± 3.14) and in 27 cases in *Macacus cynomolgus* (27.0% ± 4.44). It differed from type A by a direct emergence of the anterior circumflex artery from the axillary artery (Figs. 3a—c, 6). Three subtypes were distinguished in it.

Subtype 1. The posterior circumflex humeral artery and the subscapular artery arose together by the common trunk (Fig. 3a). It was found in 43 cases in *Macacus rhesus* (21.5% ± 2.90) and in 20 cases in *Macacus cynomolgus* (20.0% ± 4.00) .

Subtype 2. It occurred only in one case in *Macacus rhesus* (0.5% ± 0.49) and in one case in *Macacus cynomolgus* (1.0% ± 0.99). Subtype 2 differed from subtype 1 by a common emergence of the posterior circumflex humeral artery and the *profunda brachii* artery by the common trunk (Fig. 3b).

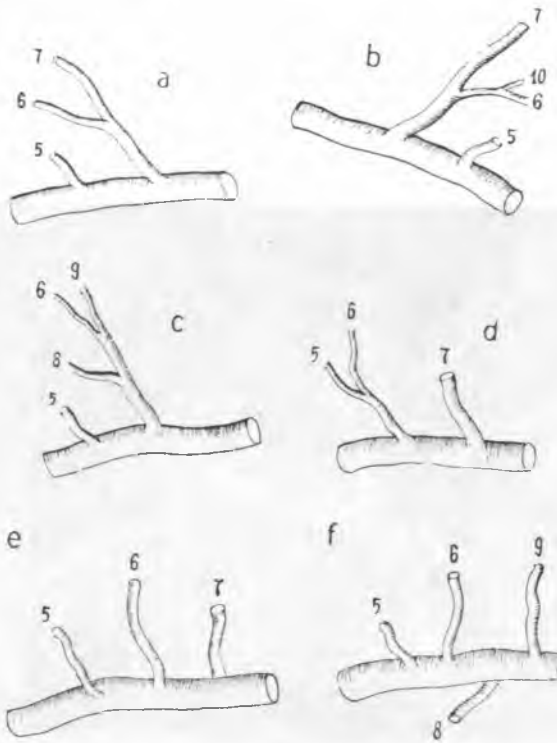

Fig. 3. The types of departure of subscapular and circumflex humeral anterior and posterior arteries in *Macacus*. For explanations see Fig. 1

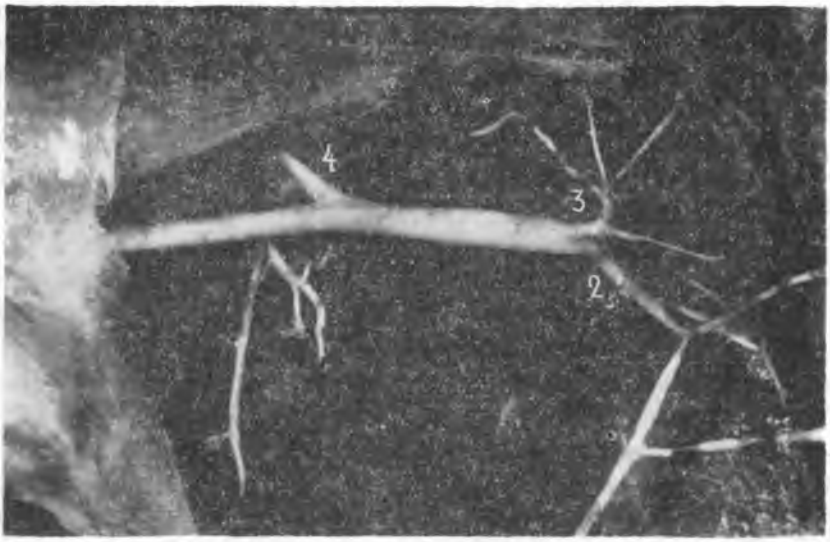

Fig. 4. The axillary artery and its branches in *Macacus rhesus* (the right side, front view). For explanations see Fig. 1

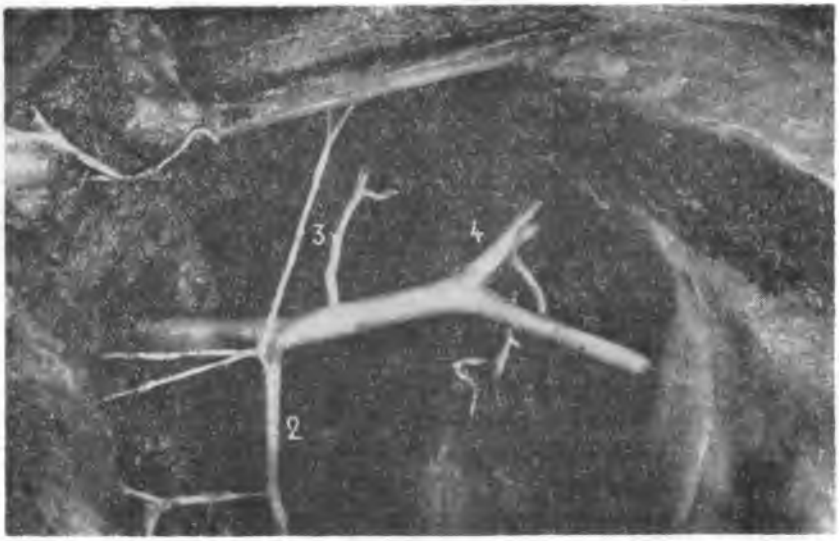

Fig. 5. The axillary artery and its branches in *Macacus rhesus* (the left side, front view). For explanations see Fig. 1

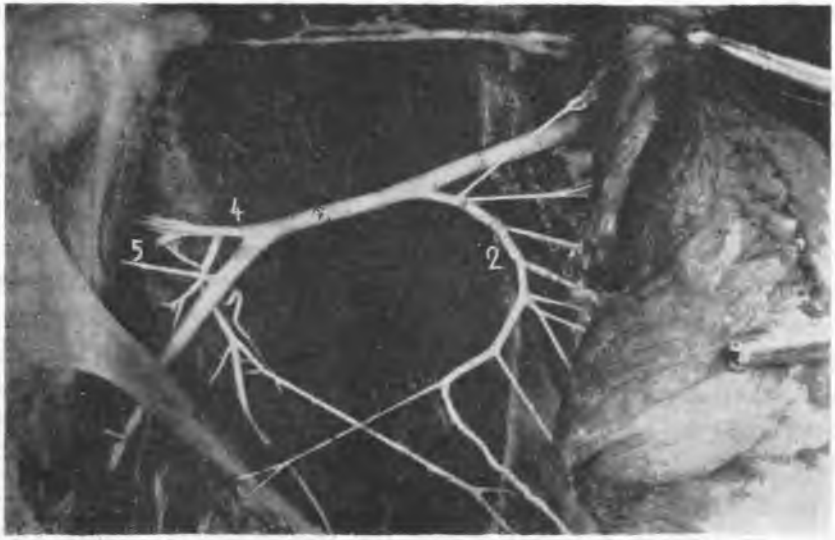

Fig. 6. The axillary artery and its branches in *Macacus rhesus* (the right side, front view). For explanations see Fig. 1

Fig. 7. The axillary artery and its branches in *Macacus rhesus* (the left side, back view). For explanations see Fig. 1

Subtype 3. The common trunk first gave off the thoraco-dorsal artery and, next, divided into posterior circumflex humeral artery and the circumflex scapular artery (Figs. 3c, 6). This variant was found in 10 cases in *Macacus rhesus* (5.0% ± 1.54) and in 6 cases in *Macacus cynomolgus* (6.0% ± 2.38).

Type C. It was peculiar by an independent emergence of the subscapular artery from the axillary artery and the common origin of both circumflex humeral arteries (Fig. 3d). It was found in 4 cases in *Macacus rhesus* (2.0% ± 0.99) and in 7 cases in *Macacus cynomolgus* (7.0% ± 2.55).

Type D. The anterior circumflex humeral artery, the posterior circumflex humeral artery and the subscapular artery arose separately from the axillary artery (Fig. 3e). This type was found in 5 cases in *Macacus rhesus* (2.5% ± 1.10) and in 4 cases in *Macacus cynomolgus* (4.0% ± 1.96).

Type E. In this type the anterior circumflex humeral artery, the posterior circumflex humeral artery, the thoraco-dorsal artery and the circumflex scapular artery emerged directly from the axillary artery (Fig. 3f). It was found in 4 cases in *Macacus rhesus* (2.0% ± 0.99) and in 3 cases in *Macacus cynomolgus* (3.0% ± 1.71).

The relationship of the circumflex humeral arteries and of the subscapular artery to the axillary artery in *Macacus* monkeys by sex and body side is shown in Table 2.

Table 2. The types of departure of subscapular and circumflex humeral anterior and posterior arteries in *Macacus*

Types	Subtypes	*Macacus rhesus*					*Macacus cynomolgus*				
		♂		♀		♂+♀	♂		♀		♂+♀
		R %	L %	R %	L %	Together %	R %	L %	R %	L %	Together %
A	1	12.0	10.5	12.0	12.5	47.0	11.0	13.0	12.0	8.0	44.0
	2	1.0	0.5	0.5	0.5	2.5		1.0	1.0		2.0
	3	3.5	4.5	4.0	3.0	15.0	3.0	2.0	2.0	3.0	10.0
	4								1.0		1.0
	5	1.0	0.5		0.5	2.0		1.0	1.0		2.0
B	1	4.5	5.5	5.0	6.5	21.5	6.0	3.0	5.0	6.0	20.0
	2		0.5			0.5				1.0	1.0
	3	0.5	1.5	1.5	1.5	5.0		2.0	1.0	3.0	6.0
C		1.0	0.5	0.5		2.0	2.0	1.0	2.0	2.0	7.0
D		0.5	0.5	1.0	0.5	2.5	1.0	1.0	1.0	1.0	4.0
E		1.0	0.5	0.5		2.0	1.0			2.0	3.0

Variants of the branching distribution in the medial and lateral portions of the axillary artery occurred side by side in various combinations. The frequency of each combination is shown in Table 3.

Table 3. The types of departure of branches of axillary artery in *Macacus*

Combinations of departure of branches of medial and lateral groups of the axillary artery	*Macacus rhesus* %	*Macacus cynomolgus* %
I and A	48.0	45.0
I and B	10.0	14.0
I and C	0.5	3.0
I and D	0.5	
I and E	1.5	1.0
II and A	9.5	5.0
II and B	12.0	8.0
II and C	0.5	2.0
II and D	0.5	1.0
II and E		1.0
III and A	2.0	2.0
III and B	0.5	
IV and A	2.0	3.0
IV and B	3.0	4.0
IV and E	0.5	
V and A	5.0	4.0
V and B	1.5	1.0
V and C	1.0	2.0
V and D	1.5	3.0
V and E		1.0

It is seen from Table 3 that the branches of the axillary artery in *Macacus* emerge mostly by two trunks: the medial trunk which gives origin to the thoraco-acromial and lateral thoracic artery, and the lateral trunk which gives off the anterior and posterior circumflex humeral arteries and the subscapular artery. An independent emergence of single branches is seldom noted.

Of the branches arising from the axillary artery the lateral thoracic artery was often found to emerge directly from it. The lateral thoracic artery arose from the axillary artery in 79 cases in *Macacus rhesus* (39.5% ± 3.46) and in 37 cases in *Macacus cynomolgus* (37.0% ± 4.83). The lateral thoracic artery was found to arise from the medial trunk in 121 cases in *Macacus rhesus* (60.5% ± 3.46) and in 63 cases in *Macacus cynomolgus* (63.0% ± 4.83).

The anterior circumflex humeral artery arose directly from the axillary artery in 63 cases in *Macacus rhesus* (31.5% ± 3.28) and in 34

cases in *Macacus cynomolgus* (34.0% ± 4.74). Its combined emergence with the posterior circumflex humeral artery was noted in 4 cases in *Macacus rhesus* (2.0% ± 0.99) and in 7 cases in *Macacus cynomolgus* (7.0% ± 2.55). The anterior circumflex artery arose from the lateral trunk in 133 cases in *Macacus rhesus* (66.5% ± 3.34) and in 59 cases in *Macacus cynomolgus* (59.0% ± 4.92).

The thoraco-acromial artery was also found to arise directly from the axillary artery relatively often. It was found in 45 cases in *Macacus rhesus* (22.5 ± 2.95) and in 17 cases in *Macacus cynomolgus* (17.0% ± 3.76). One of the branches of the thoraco-acromial artery emerged from the axillary artery and the other from the lateral thoracic artery. It was found in 11 cases in *Macacus rhesus* (5.5% ± 1.61) and in 7 cases in *Macacus cynomolgus* (7.0% ± 2.55).

The thoraco-acromial artery emerged from the medial trunk in 121 cases in *Macacus rhesus* (60.5% ± 3.46) and in 63 cases in *Macacus cynomolgus* (63.0% ± 4.83). Its emergence from the superior branch of the lateral thoracic artery was found in 5 cases in *Macacus rhesus* (2.5% ± 1.10) and in 2 cases in *Macacus cynomolgus* (2.0% ± 1.40). The thoraco-acromial artery was found to arise from the subclavian artery or from one of its branches. It was found in 18 cases in *Macacus rhesus* (9.0% ± 2.02) and in 11 cases in *Macacus cynomolgus* (11.0% ± 3.13).

A direct emergence of the other two branches from the axillary artery was seldom noted.

The posterior circumflex humeral artery arose directly from the axillary artery in 9 cases in *Macacus rhesus* (4.5% ± 1.46) and in 7 cases in *Macacus cynomolgus* (7.0% ± 2.55). A combined emergence of the posterior and anterior circumflex humeral arteries from the axillary artery was observed in 4 cases in *Macacus rhesus* (2.0% ± 0.99) and in 7 cases in *Macacus cynomolgus* (7.0% ± 2.55). A joint emergence of the posterior circumflex humeral artery and of the subscapular artery or its branches was found in 54 cases in *Macacus rhesus* (27.0% ± 3.14) and in 27 cases in *Macacus cynomolgus* (27.0% ± 4.44). The posterior circumflex humeral artery arose from the lateral trunk in 133 cases in *Macacus rhesus* (66.5% ± 3.34) and in 59 cases in *Macacus cynomolgus* (59.0% ± 4.92).

The subscapular artery arose directly from the axillary artery in 9 cases in *Macacus rhesus* (4.5% ± 1.46) and in 11 cases in *Macacus cynomolgus* (11.0% ± 3.13). A combined emergence of the subscapular artery and the posterior circumflex humeral artery from the axillary artery was observed in 44 cases in *Macacus rhesus* (22.0% ± 2.93) and in 21 cases in *Macacus cynomolgus* (21.0% ± 4.07). The subscapular artery arose from the axillary artery by the lateral trunk in 129 cases in *Macacus rhesus* (64.5% ± 3.38) and in 57 cases in *Macacus cyno-*

molgus (57.0% ± 4.95). The absence of the subscapular artery was observed in 18 cases in *Macacus rhesus* (9.0% ± 2.02) and in 11 cases in *Macacus cynomolgus* (11.0% ± 3.13). In the absence of the subscapular artery its branches: the thoraco-dorsal artery and the circumflex scapular artery were found to arise separately from the axillary artery or jointly with the posterior circumflex humeral artery or from the lateral trunk.

Besides, the *profunda brachii* artery arose from the branches of the lateral portion in 6 cases in *Macacus rhesus* (3.0% ± 1.20) and in 4 cases in *Macacus cynomolgus* (4.0% ± 1.96).

Comparative anatomical remarks

Most of the authors distinguish two portions in the branches of the axillary artery in *Primates:* medial and lateral. In *Prosimiae* and *Platyrrhina* two trunks occur: medial and lateral. The medial trunk gives off the thoraco-acromial and lateral thoracic arteries, while the lateral trunk has the subscapular artery and the posterior and anterior circumflex humeral arteries as offsets (2, 7, 10). A direct emergence of the above five arteries from the axillary artery in *Prosimiae* and *Platyrrhina* is rarely found (2, 7). The emergence of the medial trunk from the superficial brachial artery is relatively often found. An emergence of the *profunda brachii* artery by the lateral trunk or by its branches is rarely observed in *Cercopithecidae* and exceptionally rarely in *Hominoidea* (2, 7, 10).

In *Macacus rhesus, M. sinicus, M. sylvanus, M. cyclopsis* and in *Papio sphinx* the branches of the axillary artery extended from two trunks (4, 8, 10, 12, 17) as demonstrated in this paper, in *Macacus rhesus* and *Macacus cynomolgus.* In some specimens of *Cercopithecidae* the number of branches of the axillary artery may range from 3 to 5 as a result of a separate emergence of the branches of the medial portion or of some branches of the lateral portion (10) or due to the appearance of the superior thoracic artery, as reported by Platzer (10) in *Ateles.*

Hylobates and *Pongo* lack the superior thoracic artery, and the medial portion of the axillary artery has medial trunk, while in *Pan* and *Gorilla* 3 separate arteries made up the medial portion: superior thoracic, thoraco-acromial and lateral thoracic. The lateral portion of the axillary artery is made up by the lateral trunk in *Hylobates* while in *Pongo, Pan* and *Gorilla* the lateral portion is formed by the subscapular artery and a common trunk of circumflex humeral arteries (10).

In man, the medial portion of the axillary artery is very seldom made up by the medial trunk (according to Trotter and his co-workers in 7%, according to De Garis and Swartley in 11.1%). In man the superior thoracic artery, thoraco-acromial and lateral tho-

racic artery make up the arteries of the medial portion (1, 5, 13). The lateral thoracic artery often arises from the axillary artery jointly with the subscapular artery (according to Adachi in 55.0% and according to Trotter and his co-workers in 23.4%). Some workers ascribe the lateral thoracic artery to the lateral portion of the axillary artery (1, 3). The lateral portion of the axillary artery is represented in man by the lateral trunk only in a small percent of individuals (according to Adachi in 4.5%, according to Trotter and his co-workers in 6.8%, and according to De Garis and Swartley in 2.3%). A separate emergence of one artery of the lateral portion from the axillary artery and a joint emergence of the two other arteries is more frequently noted than that described above. The subscapular artery and the posterior circumflex humeral artery often arise together from the axillary artery (in 37.0, 30.0, 29.8, 27.2% according to Fukuyama, Adachi, Mori and Skopakoff, respectively; according to Trotter and his co-workers in 13.3%, according to De Garis and Swartley in 1.2%). The anterior and posterior circumflex humeral arteries have also common origin (according to De Garis and Swartley in 19.9%, according to Adachi in 17.4%, according to Trotter and his co-workers in 15.6%). The subscapular artery and the anterior circumflex artery are found to arise exceptionally seldom from the axillary artery (according to Adachi in 1.0%). In man, branches of the lateral portion arise separately, mostly from the axillary artery (1, 5, 6, 9, 11, 13).

It results from the above survey that in Lower *Primates* the branches of the axillary artery usually arise by common trunk. The degree of a separate emergence of those branches is found to increase in the anthropogenetic order and is highest in man. Following Bayer (2) and Göppert (7) we must state that the emergence of branches of the axillary artery by common trunk is of primitive type. The mode of the branching of the axillary artery in *Macacus* must be called primitive.

Conclusion

1. The mode of the branching of the axillary artery is similar in *Macacus rhesus* and *Macacus cynomolgus*.

2. The branches of the axillary artery in *Macacus* are arranged in two portions: medial and lateral. The medial portion is made up by the thoraco-acromial and lateral thoracic arteries. The lateral portion is made up by the subscapular artery and the anterior and posterior circumflex humeral arteries.

3. In most of the *Macacus* monkeys the branches of the medial portion arise by medial trunk and those of the lateral portion — by lateral trunk. Only in a small percent of subjects the branches of both portions arise directly from the axillary artery.

4. The mode of the arrangement of the branches from the axillary artery in *Macacus* is primitive.

5. Significant differences in the mode of emergence of the branches of the axillary artery, related to sex and side of the body, were not observed in *Macacus* monkeys.

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Pracę otrzymano 20.II.1966 r.

Zmienność odejścia gałęzi tętnicy pachowej u *Macacus rhesus* i *Macacus cynomolgus*

Streszczenie

U 100 osobników *Macacus rhesus* i 50 osobników *Macacus cynomolgus* zbadano obustronnie zmienność odejścia gałęzi t. pachowej.

Grupę przyśrodkową gałęzi t. pachowej stanowiły t. piersiowo-barkowa i t. piersiowa boczna, grupę boczną tworzyły t. podłopatkowa oraz tt. okalające ramię przednia i tylna.

Gałęzie grupy pierwszej w 61,3% przypadków odchodziły od t. pachowej za pośrednictwem pnia przyśrodkowego, w 2,3% — t. piersiowo-barkowa była gałęzią t. piersiowej bocznej. W pozostałych przypadkach naczynia te zaczynały się samodzielnie.

Gałęzie grupy drugiej w 64,0% przypadków odchodziły od t. pachowej za pośrednictwem pnia bocznego, w 27,0% — samodzielnie zaczynała się t. okalająca ramię przednia, natomiast dwa pozostałe naczynia wspólnie, w 3,7% samodzielnie — t. podłopatkowa, a wspólnie — tt. okalające ramię. W pozostałych przypadkach wszystkie naczynia tej grupy brały początek z t. pachowej samodzielnie.

Вариабильность ухода ветвей подкрыльцовой артерии у *Macacus rhesus* и *Macacus cynomolgus*

Резюме

Билатерально исследована вариабильность ухода ветвей подкрыльцовой артерии у 100 особей *Macacus rhesus* и 50 *Macacus cynomolgus*.

Медиальную группу ветвей подкрыльцовой артерии составляли артерия грудной клетки и плечевого отростка и боковая артерия грудной клетки; латеральную группу образовали подлопаточная артерия, а также передняя и задняя артерии, окружающие плечевую кость.

Ветви первой группы в 61,3% всех случаев отходили от подкрыльцовой артерии с помощью медиального ствола, в 2,3% — артерия грудной клетки и плечевого отростка была ветвью боковой артерии грудной клетки. В остальных случаях эти сосуды начинались самостоятельно.

Ветви другой группы в 64,0% всех случаев отходили от подкрыльцовой артерии с помощью латерального ствола, в 27,0% — самостоятельно начиналась передняя артерия, окружающая плечевую кость, тогда как остальные два сосуда — совместно, в 3,7% — самостоятельно начиналась подлопаточная артерия, а совместно — артерии, окружающие плечевую кость. В остальных случаях все сосуды этой группы начинались самостоятельно от подкрыльцовой артерии.

Рис. 1. Типы ухода артерии грудной клетки и плечевого отростка и боковой артерии грудной клетки у макак.

Рис. 2. Типы ухода подлопаточной артерии, а также передней и задней артерий, окружающих плечевую кость, у макак.

Рис. 3. Типы ухода подлопаточной артерии, а также передней и задней артерий, окружающих плечевую кость, у макак.

Рис. 4. Подкрыльцовая артерия и ее ветви у *Macacus rhesus* (правая сторона, вид спереди).

Рис. 5. Подкрыльцовая артерия и ее ветви у *Macacus rhesus* (левая сторона, вид спереди).

Рис. 6. Подкрыльцовая артерия и ее ветви у *Macacus rhesus* (левая сторона, вид спереди).

Рис. 7. Подкрыльцовая артерия и ее ветви у *Macacus rhesus* (левая сторона, вид сзади).

Табл. 1. Типы ухода артерии грудной клетки и плечевого отростка, а также боковой артерии грудной клетки у макак.

Табл. 2. Типы ухода подлопаточной артерии, а также передней и задней артерий, окружающих плечевую кость у макак.

Табл. 3. Типы ухода ветвей подкрыльцовой артерии у макак.

Papier druk. sat. III kl. 80 g Format 70 × 100 Druku str. 15
Annales UMCS Lublin 1966 LZGraf. im. PKWN, Lublin, Unicka 4 Zam..2013. 24.V.67
800 + 50 egz. C-3 Manuskrypt otrzymano 24.V.67 Druk ukończono 20.III.68