

# MORPHOLOGY AND PATHOMORPHOLOGY

## COMPARATIVE DATA ON THE MORPHOLOGICAL CONSTITUTION OF BONE MARROW PUNCTURES AND SMEARS FROM THE STERNUM AND FEMUR OF HEALTHY DOGS

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In experimental work both data of the morphological picture of bone marrow punctures and results of counts of myelograms of bone marrow smears from the femur or sternum must be used.

It seemed interesting to compare the results obtained from a simultaneous count of myelograms from a sternal puncture and smears from the sternum and upper part of the femur. For this purpose experiments were carried out on

Comparative Data of the Morphological Constitution of a Bone Marrow Puncture and of a Smear from Sternum or Femur

Index	Sternal puncture M ± m	Smear from sternum M ± m	Smear from femur M ± m	Value of t <sup>1</sup> in compari- son with ster- nal puncture	
				with smear from stern.	with smear from femur
Hemohistioblast	0,02	0,37 ± 0,12	0,3 ± 0,16		
Reticulo-endothelium	0,6 ± 0,19	2,77 ± 0,95	6,65 ± 2,25	2,82	2,69
Proerythroblast	0,81 ± 0,16	0,57 ± 0,1	0,46 ± 0,14	1,33	1,66
Basophil macroblast	1,5 ± 0,30	1,45 ± 0,19	2,42 ± 1,06	0,15	1,74
Basophil normoblast	9,17 ± 1,77	15,2 ± 1,78	10,66 ± 1,55	2,41	0,65
Polychromatophil normoblast	14,14 ± 1,94	18,1 ± 2,2	17,81 ± 2,30	1,35	1,2
Oxyphil normoblast	0,36 ± 0,08	0,74 ± 0,39	0,81 ± 0,44	0,97	1,02
Mitosis of red series	1,17 ± 0,22	0,73 ± 0,18	0,63 ± 0,14	1,57	2,07
Megacaryoblast	0,02	0,15 ± 0,05	0,13 ± 0,05		
Megacaryocyte	0	0,25 ± 0,1	0,16 ± 0,04		
Eosinophil	3,72 ± 1,09	2,53 ± 0,69	2,64 ± 1,11	0,92	0,69
Myeloblast	0,67 ± 0,19	1,61 ± 0,39	0,80 ± 0,2	2,2	0,48
Promyelocyte	1,95 ± 0,79	1,7 ± 0,39	0,87 ± 0,42	0,28	1,23
Myelocyte	1,56 ± 0,36	1,8 ± 0,55	0,97 ± 0,22	0,38	1,4
Young forms	6,79 ± 1,03	7,93 ± 0,91	6,11 ± 1,15	0,83	0,44
Unsegmented nuclei	28,81 ± 2,27	25,77 ± 2,57	20,81 ± 3,34	0,88	1,94
Segmented nuclei	14,63 ± 4,51	7,9 ± 2,67	12,91 ± 2,81	1,26	0,49
Lymphocyte	5,77 ± 0,79	5,08 ± 0,91	8,31 ± 1,91	0,57	1,23
Monocyte	5,6 ± 1,24	2,33 ± 0,35	1,53 ± 0,47	2,53	3,08
Plasmatic white	0,27	0,03	0,14		
Plasmatic red	0,3 ± 0,12	0,53 ± 0,16	0,57 ± 0,20	2,5	1,16
Mitosis of white series	0,24 ± 0,10	0,2	0,08		
Total number of erythroblastic elements	24,84 ± 3,42	38,7 ± 4,47	32,17 ± 3,41	2,43	1,52
Total number of myeloid elements	56,25 ± 3,17	46,7 ± 3,85	43,2 ± 2,16	1,91	3,4

\* Statistical treatment employing the criterion of Student at a level of significance of 0,05 was applied.

seven healthy dogs. At first an analysis of the circulating blood and of a sternal puncture was made, they were then killed by electrocution, smears were made from the sternum and femur, and the myelograms were counted. The figures obtained were treated statistically.

No great differences were found between the picture obtained from the punctures and the myelogram counts of smears made from the sternum or upper third of the femur (see the table). In the smears there was only some increase in the reticulo-endothelial elements, in the basophil normoblasts, and in the plasmatic cells of the red series, and of the monocytes.

#### SUMMARY

A comparison was made between the results obtained from the myelogram of a sternal puncture and of smears from the sternum and upper third of the femur. The experiments were performed on seven healthy dogs. First an analysis of the circulating blood and of a sternal puncture was made; the animals were then killed by electrocution, and the myelograms were counted from smears made from the sternum and femur. The figures obtained were treated statistically. The results indicated no discrepancies between the pictures obtained by sternal puncture by smears from the sternum and upper third of the femur. The only differences were a higher number of reticulo-endothelial elements, basophil normoglasts, plasmatic cells of the red series and of monocytes.