Since the same blood and the same amount of heparin was used for both 'r_R' and 'r_C' measurements under the same conditions, the antiheparin activity of the sera investigated is proportional to the 'r_R' and 'r_C' values. This relationship is inverse: the greater the antiheparin activity of serum the shorter the 'r' value. The antiheparin activities of both these sera (S_R and S_C) were compared by expressing the antiheparin activity of reserpinized serum (S_R) as a percentage of the antiheparin activity of serum from blood without reserpin, which was taken as 100% according to the formula: antiheparin activity of serum $_R = r_C/r_R \cdot 100$.

Table II. Antiheparin activity of serum: control and reserpinized samples

Test no.	Control blood (%)	Reserpinized blood (%)
1	100	210.0
2	100	322.2
3	100	590.9
4	100	170.0
5	100	250.0
6	100	425.0
Average:	100%	328.0%

$t = 3.474$, $P < 0.05$

Results. Table I presents 'r' and 'Σ' values from thrombelastograms of control and reserpinized bloods. As can be seen, reserpin had a marked influence on the 'Σ' values, but the 'r' values were not affected, i.e. the effect was the same on thrombocytes. Table II shows relative values of antiheparin activity of reserpinized serum (S_R) as a % of activity of the non-reserpinized (S_C) serum.

Conclusion. Reserpin significantly increased the antiheparin activity of serum from reserpinized blood ($t = 3.474$, $P < 0.05$) and decreased the 'Σ' value in thrombelastogram of this blood.

There is no direct evidence whatsoever as to the nature of the antiheparin activity of serum, but it would appear to be a substance freed from thrombocytes, which process is accelerated by reserpin.

Zusammenfassung. Es wurde gezeigt, dass Zusatz von Reserpin zum Blut die Antiheparinaktivität im Serum deutlich steigert. Da Reserpin zugleich die Thrombocyten beeinflusst, wird vermutet, dass diese für die Antiheparinaktivität verantwortlich sind.

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Specific Inhibition of Mast Cell Disruption in vitro

Successful attempts have been made to use direct or indirect degranulation of basophile cells[1-9], or indirect mast cell degranulation[10], in the diagnosis of hypersensitivity.

Rat mast cell degranulation was employed chiefly in experimental anaphylaxis[11-17] by in vitro exposure to the antigen of mast cells from sensitized animals, or sensitization of normal rat cells with the serum of sensitized rats, which contains a mast cell sensitizing antibody (MCSAb)[14].

We have investigated: (a) the disruption of isolated peritoneal mast cells from sensitized rats in vitro in the presence of antigen; (b) how soon after inoculation it occurs; (c) if it could be specifically inhibited by a suitable antibody.

Albino rats were sensitized by a single inoculation in each foot pad of human γ-globulin (with complete Freund adjuvant 'Difco'), groups of animals were killed weekly over a period of 6 weeks following inoculation, and serum and peritoneal mast cells subsequently removed. Skin test performed on the 7th day after inoculation showed a delayed reaction of hypersensitivity.

Peritoneal mast cell suspension was obtained by a previously described technique[10], and the degranulation test was carried out in the presence of human γ-globulin diluted 1:5.

The inhibition test was performed by adding to the mast cells an antigen-antibody mixture (antigen in a 1:2.5 dilution, antibody – anti human-rabbit serum – in twofold dilutions from 1:2 to 1:32).

Two controls were used: (1) mast cells added to antibody alone, and (2) mast cells added to antigen mixed with normal rabbit serum rather than antibody (in order to test the specificity of the reaction).

We found extensive disruption of mast cells from sensitized rats when exposed in vitro to the antigen at 37°C.

The reaction is already positive in the first week, more pronounced in the second and third weeks, decreases in

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the fourth week, and vanishes in the fifth week after inoculation. Inhibition tests were invariably positive: undiluted or in a 1:2 dilution, the antibody strongly inhibited the degranulation process. Higher dilutions gave a lower degree of inhibition, while 1:32 dilution had only a very weak protective effe t.

Normal rabbit serum offers very little protection against mast cell disruption; the inhibition obtained by these sera, when undiluted, being less than or at best equal to that given by a 1:32 dilution of the specific antibody.

Sera from the actively sensitized animals, used for the in vitro sensitization of peritoneal mast cells from normal rats prior to exposure to antigen, gave positive results in the first four weeks after inoculation.

Disruption of mast cells of actively sensitized rats, as obtained in our experiments and in those of MOTA[14], is in contradiction with HUMPHREY's negative results[17], probably because of the difference in inoculation (via foot pads with adjuvant by Mota and by us, as opposed to the intravenous route used by HUMPHREY).

The in vitro inhibition of mast cell disruption reflects the specificity of this reaction, and could perhaps have future practical use in the diagnosis of allergic states.

The weak protective effect of normal rabbit sera on mast cell disruption is in agreement with KELLER's observation[18].

The action of the sera of actively sensitized rats upon peritoneal mast cells from normal rats is in accordance with MOTA's findings[14]: such sera react similarly to human reagins, and what MOTA named 'MCSAb' appears in our experience after a single sensitizing injection.

These findings suggest a possible relation between mast cell sensitizing antibody and delayed type of hypersensitivity in rats[19].

Résumé. Les «mast cells» péritonéales de Rats hypersensibles à la γ-globuline humaine, subissent une «dégranulation» in vitro en présence de l'antigène. Cette «dégranulation» est inhibée par les antisérums spécifiques. Les sérums de Rats hypersensibles ont la propriété de sensibiliser au même antigène les «mast cells» de Rats normaux.

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The Brain of the Southern Sei Whale (*Balaenoptera borealis* Lesson)[1]

The brain (Figure 1) of the Southern Sei whale (*Balaenoptera borealis* Lesson) is anatomically investigated. The 12 brains of the collection were prepared from animals caught in the Indian Ocean (Durban area, PILLERI legit 1963) and the Antarctic Sea (Thor Dahl, Sandefjord). The complete weight of the brain (without the dura mater) varies between 3000 g and 5200 g. The average weight of the adult specimens is 4636 g. The cerebrum shows intense furrowing. As in other *Cetacea* the sulci develop frontooccipital around the fissure of Sylvius. The insula is extensive and forms approximately 17 radial gyri. The hippocampus formation is not greatly developed (Figure 2). The bulbus and tractus olfactorius are narrow. The tuberculum olfactorium shows definite bulging and is comparatively large. The thalamus is well developed and forms a distinct pulvinar. The stria terminalis is quite wide. A massa intermedia as connection between both thalami (Figure 3) is missing in all examined specimens. The hypothalamus is narrow and shows a distinct recessus supraopticus and infundibuli. The corpus mammillare is very small. The commissura anterior is minimally developed. The fornix, on the other hand, is well developed and cannot be compared in size to the corpus mammillare and the hippocampus. The neuro- and adenohypophysis are completely separated from one another (Figure 4). The neurohypophysis is elongated and receives its blood supply from the rete mirabile of the dura mater. The dura forms a diaphragm around the infundibulum, which is strengthened rostrally by an intradural cartilage. The corpus striatum (Palaeo- and Neostriatum) are concentrated dorsally from the tuberculum olfactorium. The cauda of the caudate nucleus is narrow and somewhat enlarged at the end. The ventricular system forms shortened cornu occipitale. The lamina quadrigemina shows a slight asymmetry in the size of the colliculi. This asymmetry, however, is not as obvious as in the Right whale (*Eubalaena australis*

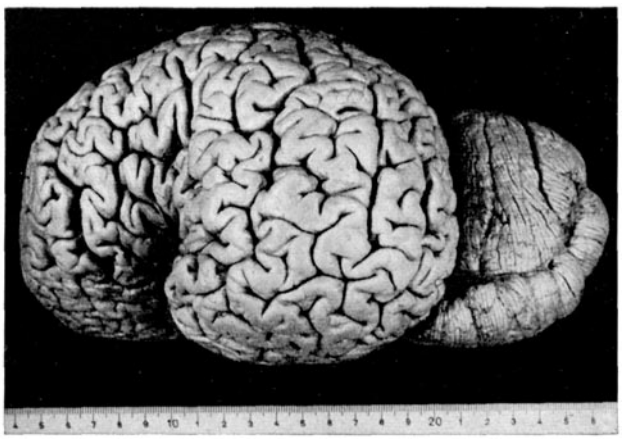

Fig. 1. Lateral view of the brain of the Southern Sei whale (*Balaenoptera borealis* Lesson).

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