

*Brief Communication*

FIBRINOLYTIC ACTIVITY IN SLAUGHTER-PIGS STUNNED BY ELECTRIC SHOCK OR CARBON DIOXIDE INHALATION

It has been shown that in human beings fibrinolysis occurs in the blood following physical and psychical stress such as muscular activity, excitement, anoxia and electric shock.

Similar stress-conditions prevail in pigs during the transportation to the factory and the stunning, sticking and bleeding processes.

This report deals with preliminary investigations of the fibrinolytic activity in the blood of pigs subjected to ordinary slaughterhouse methods including stunning by electric shock or carbon dioxide inhalation.

Blood specimens were collected from the blood pouring out of the sticking wound into cooled (0°C) citrate tubes (one part 3.8 % tri-sodium citrate to nine parts of blood). The fibrinolytic activity in the plasma and its euglobulin fraction (precipitated at 0°C at pH 5.9) was estimated on unheated and heated fibrin plates (*Astrup & Müllertz 1952; Lassen 1953*). The activity was expressed as the product of two perpendicular diameters of the lysed zone on the fibrin plates.

Table 1. Fibrinolytic activity in the euglobulin fraction of plasma of CO<sub>2</sub>-stunned slaughter-pigs.

Pig no.	Diameter product (mm <sup>2</sup> )	
	Unheated plates	Heated plates
1	742	67
2	633	73
3	504	61
4	479	54
5	477	70
6	257	74
7	307	73
8	160	37
9	148	47
10	329	35

No activity was found in the whole plasma samples but as can be seen in Tables 1 and 2 a pronounced fibrinolytic activity

Table 2. Fibrinolytic activity in the euglobulin fraction of plasma of electrically-stunned slaughter-pigs.

Pig no.	Diameter product (mm <sup>2</sup> )	
	Unheated plates	Heated plates
1	+	+
2	0	0
3	171	31
4	40	14
5	223	49
6	128	32
7	184	82
8	80	30
9	341	56
10	38	8

+ trace

was found in the euglobulin fraction of plasma of all the CO<sub>2</sub>-stunned and of most of the electrically-stunned slaughter-pigs.

Since increased fibrinolytic activity can be found in cases with haemorrhagic condition (capillary bleedings, diathesis) it is perhaps possible that the fibrinolytic activity demonstrated in slaughter-pigs is involved in the mechanism causing the blood-splashing which can frequently be seen in the lung and muscular tissue of slaughtered pigs.

Further investigations using experimental animals (pigs at a live-weight of 20 kg) are in progress to prove this theory more closely.

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#### REFERENCES

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- Lassen, M.*: Heat denaturation of plasminogen in the fibrin plate method. *Acta physiol. scand.* 1953, 27, 371—376.

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