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Haemolysis caused by *Trichophyton verrucosum* and *Trichophyton violaceum*

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Summary

Trichophyton verrucosum and *Trichophyton violaceum*, but not *Trichophyton schoenleinii*, were found to produce clear zone of haemolysis on Sabouraud dextrose agar with 5 % blood of different animals.

During the course of a survey of cattle ringworm in Egypt the difficulty to isolate *T. verrucosum* on Sabouraud dextrose agar (SDA) was realized. The incorporation of thiamine, inositol and yeast extract into SDA facilitated greatly the primary isolation.

The addition of 5 % cattle blood increased the rate of positivity. On the Sabouraud dextrose blood agar (SDBA) *T. verrucosum* grew faster and the colonies attained a bigger size than on

SDA without enrichment. The colonies exhibited at first a waxy appearance, became raised, highly convoluted and took a white chalky appearance especially in the center. Microscopically profuse amount of microconidia and also chlamydospores were observed.

On subculturing of *T. verrucosum* on SDBA it was observed that all strains produced a clear zone of haemolysis (Fig. 1), mostly of the β -type and in young cultures of the α -type.

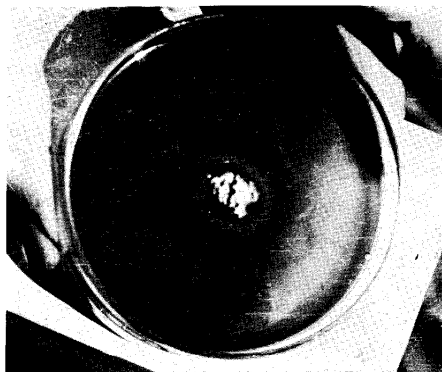


Fig 1: Haemolysis of the β -type caused by *Trichophyton verrucosum* on Sabouraud dextrose agar with 5 % blood

Table 1: Haemolytic activity of *T. verrucosum*, *T. violaceum* and *T. schoenleinii* on SDA with 5 % blood of different animals

Dermatophytes (10 strains of each)	Sabouraud dextrose agar with 5 % blood of				
	g. pig	cow	buffaloe	horse	sheep
<i>Trichophyton verrucosum</i>	+	+	+	+	+
<i>Trichophyton violaceum</i>	+	+	+	+	+
<i>Trichophyton schoenleinii</i>	—	—	—	—	—

The haemolytic activity of *T. verrucosum* was tested using blood of g. pig, cow, buffaloe, horse, and sheep. For comparison 10 strains each of *T. verrucosum*, *T. violaceum* and *T. schoenleinii* were examined.

Results and discussion

As shown in Table 1 all strains of *T. verrucosum* and *T. violaceum* produced zones of haemolysis on SDA with 5 % blood of different animals. On the other hand the *T. schoenleinii* strains were all negative.

T. verrucosum is the most common cause of cattle ringworm in Egypt (REFAI et al., 1976). It was also isolated from man (EL-FIKI and RIETH, 1959). On the other hand *T. schoenleinii* and *T. violaceum* are the main causes of ringworm in man (ABDEL-FATTAH et al., 1967).

The development of violate pigment by *T. violaceum* facilitate the recognition of it. *T. verrucosum* and *T. schoenleinii* are similar to each other especially in primary cultures and are sometimes difficult to differentiate them. The ability of *T. verrucosum*, but not *T. schoenleinii*, to produce haemolysis on SDBA may be useful for differentiation of both species.

Zusammenfassung

Es wurde nachgewiesen, daß *T. verrucosum* und *T. violaceum*, aber nicht *T. schoenleinii*, Hämolyse auf Sabouraud-Dextrose-Agar mit 5 % igem Blut verschiedener Tierarten hervorrufen.

References

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