

Active sensitization by o.o. diethyl-phtalimido-phosphothioate (Plondrel®)

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A male florist aged 21 was investigated because of a hand eczema which showed typical features of an occupational eczema. Patch tests were performed with A1-test® patches (imported by van der Bend, Brielle). The results were read after 48 and 72 h according to the methods recommended by the ICDRG. All reactions with the standard series and many petals and leaves from flowers including roses were negative, as were a series of pesticides including Plondrel® (0.1 % pet.).

The patient returned to the Clinic after 16 days, and stated that 3 days earlier an area on the back started to itch. On the area where the test with Plondrel had been applied, a clear +++ reaction was seen.

The possibility of sensitization to the fungicide o.o. diethyl-phtalimido-phosphothioate (trade name: Plondrel) has been discussed previously (van Ketel 1975). The sensitizing capa-

city of this compound was demonstrated in guinea pigs by Sinkelendam (1975) using both the maximization test and the Landsteiner-Draize method.

In our case active primary sensitization to Plondrel must be considered as the most likely cause of the late reaction.

References

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The sensitizing effect of preservatives for coolants

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Keczkes & Brown (1976) reported an outbreak of contact dermatitis at a moderate-sized engineering factory. They stated that four of 19 affected cases were caused by sensitization to hexahydro-1,3,5-tris-(2-hydroxyethyl)-triazine (HTHT) (Grotan®) used as preservative in a coolant oil.

They described the results of patch tests with an aqueous solution of HTHT carried out shortly after the disappearance of the skin eruption. The patch tests were repeated after 1 year to 18 months. The results showed that only one of them reacted positively. The other 15 cases remained unclear. On these results the authors felt it necessary to draw attention to HTHT as a new potential sensitizer.

The preservative dissolved in the coolant was not being tested. Dilute aqueous solutions of HTHT have a pH between 10 and 11. Hence it is possible that results from a 48-h closed patch test are irritant rather than allergic. This seems likely since a higher concentration has been tested than the concentration in normal use in coolant oils. The maximum used in practice is 0.15 % and usually only approximately 0.1 % in emulsions. Keczkes & Brown (1976) have tested with 0.2 % and for the repeat patch test even up to 5 %.

HTHT has been used for more than 15 years all over the world. It is by no means a new compound as the authors supposed. Obviously Keczkes & Brown were not aware that the

question of a possible sensitizing effect of the triazine derivative had been investigated in extensive tests by Schneider et al. (1965). These investigations were instigated after the findings of Dungemann et al. (1964) and Rietschler (1964) who, like Keczkcs & Brown (1976), in a relatively short and limited period found an increased incidence of skin disorders in men who worked with HTHT-containing emulsions. Schmitz (1964), however, could not find any sensitizing properties of HTHT at the same time. Schneider et al. (1965) reported as follows:

1. Epidemiological investigations were carried out in 13 important German factories using large quantities of the preservative. In nine factories with more than 5000 workers, who had prolonged contact with HTHT, no skin disorders have been observed in connection with the use of this substance. In the other factories such skin disorders seldom occurred and only under special conditions (higher concentrations of preservatives, very high temperature or use of certain emulsions). In any case these disorders disappeared under normal conditions. The patients could continue to work with the preservative additives.
2. No allergy has been found in epicutaneous tests on 227 workers of three factories, who had contact with HTHT-containing cutting oil emulsions, in most cases for a long period (3 years).
3. Catamnestic investigations of skin injuries, which occurred sporadically in the firms, showed that there obviously had been an association with complex cutting oil batches.

The results quoted in 1 and 2 and the experiences after 15 years' use of the preservative make it unlikely that such an accumulation of sensitization cases occurred in the series described by Keczkcs & Brown (1976). Rather is it possible that here, too, a special cutting oil change, as Schneider mentioned, or another addition was responsible for the occurrence of the skin disorders and the preservative had an additional influence. In favour of this view one may quote:

1. The epidemic occurrence of the eruption. It has to be taken into consideration that the preservative is a chemically defined substance and is not subject to variations from batch to batch. Therefore, in our opinion sensitization cannot occur epidemically.
2. Only four of 19 men showed a positive reaction to the preservative, and the authors did not find any explanation for the other cases which occurred at the same time.
3. Obviously the cutting oils have often been changed and, thus the negative findings of the epicutaneous tests with the cutting oils cannot be regarded as representative. Particularly with patient A.T. it has to be noted that the skin eruptions occurred at a time when cutting oils other than the tested substances have been used.

In summary, the conclusions from the findings of Keczkcs & Brown (1976) should be seen in proper perspective and the role of factors other than HTHT have to be taken into consideration.

References

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