

OLFACTOTOXICITY OF STREPTOMYCIN

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During the first years of the use of streptomycin this antibiotic was more toxic than now and its range of permissible dosage was small. Many patients were saved by its use, but not without neurologic side-effects. Afterwards streptomycin was purified and the side-effects almost disappeared when the dosage was not excessive. Although the pharmaceutical industry supplies chemically pure products, we nevertheless realize from time to time in our patients the noxious results of streptomycin, be it either of allergic or toxic etiology. There is the most often mentioned side-effect upon the vestibular and cochlear functions. Renal damages appear more seldom. Only in children the intoxication can even lead to a coma. The allergic reactions to streptomycin appear too, but more seldom and in less serious forms than those attributed to penicillin.

In a discussion with some pulmologists about the noxious effects of streptomycin, anosmia was mentioned as a consequence of such a treatment. This inspired us to carry out the investigations in three pulmologic institutions, where pulmonary patients were treated with streptomycin.

We examined 300 patients, male and female, aged 13 to 74, all previously treated with streptomycin. After rhinoscope examination the patients were offered to take a smell at a series of wide-necked bottles, each containing one of the seven fundamental odours, diluted from 10 to 100 olfacts, as well as the concentrated substances. In the tested group 8 cases of anosmia and 13 cases of more or less developed hyposmia were found. All the above mentioned were found in adults, while not a single one in adolescents. It is stated that in all these cases, with the exception of the two, the damage of the smell existed prior to the streptomycin treatment.

In the two adult male patients we found total anosmia of sensorineural type, the etiology of which we consider to be of particular interest.

The first patient, aged 47, a butcher by profession, before the admittance to the hospital had an extremely good sense of smell. After two days of the streptomycin treatment he noticed a complete loss of this capacity. The total administered amount was 45 grams of streptomycin.

The second patient, aged 56, an innkeeper by profession, had also previously an intact sense of smell. By the end of the first week of the streptomycin therapy he observed sudden disappearing of his olfactory function. Prior to the testing day he received the total of 80 grams of streptomycin. Both patients were treated with dihydrostreptomycin sulfate.

Neither of them noticed any other allergic or toxic difficulties nor indeed

were they recorded anywhere else. No other drug was administered at that time. We could freely deduce that in both cases the anosmia was due to the noxious effect of streptomycin, but also that these two cases do not have the meaning of standard percentage. The risk of the streptomycin therapy in view of olfactory damages does not seem to be very significant and should not represent the reason for the complete abolishment of use of this drug. We consider it necessary to reduce its unjustified use, especially as a companion drug. Primarily, we are against the manufactured mixtures of penicillin and streptomycin, which are more often than not used as a routine by general practitioners. It is possible that in patients so treated some cases of influenza-anosmia are hidden. The growing choice of antibiotic drugs makes it possible for us to replace some of them with the less noxious and toxic varieties. In this way recently the pulmologists replaced the well known scheme: INH - SM - PAS with the isoniazid — rifampicin — myambutol scheme.

In cases where streptomycin is routinely administered, we suggest to perform olfactometry before the therapy and on the third and seventh day of the therapy. In cases of hyposmia or early anosmia, particularly in persons professionally or otherwise required to have a good olfactory sense, streptomycin should be withheld and the therapy of anosmia introduced.

Finally, we consider that in all ominous drugs the olfactotoxicity should be examined. Even in modern life the olfactory sense is not without meaning and should not be neglected.

SUMMARY

The authors tested the sense of smell in 300 patients treated with streptomycin. Sensorineural anosmia, undoubtedly caused by streptomycin was found in two patients. The damage developed during the first week of therapy. The authors suggest that the olfactometry should precede the treatment with streptomycin and be performed on the third and seventh day. If anosmia or hyposmia appear, one should, especially in certain professions, change the plan of therapy and try to reconstitute the olfactory sense.

RÉSUMÉ

Sur la base de constatation des pulmologues, indiquant qu'ils ont observé chez les malades soignés par la streptomycine des lésions de l'odorat, les auteurs ont examiné 300 malades dans les hôpitaux de la tuberculose. Dans deux cas les auteurs ont observé l'anosmie qui peut être attribuée uniquement à l'action de la streptomycine. Il faut envisager cette possibilité aussi en cas des premiers troubles et changer l'antibiotique.

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