Corticosteroid therapy in rhinoplasty

H. Kittel and H. Masing, Erlangen, West-Germany

SUMMARY

3 years experience in corticoid treatment of more than 796 cases of rhinoplasty is reported. A remarkable reduction of oedema after surgery was observed. The application of 40 mg Corticoid crystalline suspension on each side of the nose following surgical procedure is recommanded.

THE anti-exudative and anti-inflammatory effect of the corticosteroids is undisputed. Consequently these preparations have been used for years in the USA for the suppression of postoperative oedema in plastic and reconstructive operations of the face. The local application of corticoid derivatives has also proved useful in other areas of the ear, nose and throat region, as for example, in the larynx in microlaryngoscopic interventions on the vocal cords (Kittel).

The use of glucocorticoids in crystalline suspension produces longer persisting concentrations at the site of reaction because of the delayed solubility. In comparison with the positive results found in the literature (Beickert), side effects scarcely occur with the use of such crystalline suspensions. In 1969, Härtel observed subcutaneous tissue atrophy with secondary changes in the overlying skin at the site of application and also granulomas at the injection site in 3% of all patients treated. Corticoid crystals could still be detected in these granulomas two years later. The different particle sizes in the suspension and their surface areas seem to be responsible for this as Möllmann et al. (1972) proposed in the discussion of comparative studies of various depot corticoids. We have not observed any side effects at all in the patients we have treated, but we have never injected the crystalline suspension into the nasal conchae.

Stimulated by good results of treatment by T. Smith we have injected 80 mg 6-methyl-21-acetylprednisolone (Urbason Crystalline Suspension) paranasaly into the soft parts of the cheek of all patients after the end of rhinoplasty since 1972. The injections were always given when osteotomy had to be performed on the pyramids. 796 patients were operated on and treated with Urbason Crystalline Suspension in this way. As already mentioned, no undesirable side effects were observed. It was noted that the postoperative oedema was distinctly less with the same surgical technique, while before the introduction of corticoid therapy

Paper presented at the 6th Congress of the European Rhinologic Society, Erlangen, September 1975.

Table 1. The efficacy of 80 mg Urbason Crystalline Suspension (methylprednisolone) on the postoperative oedema following osteotomy of the pyramids.

	Urbason Crystalline Suspension		
Odema of the upper and lower lid	before operation 24 hrs intragluteally	paranasal postop.	Total
Slight +	5	15	20
Moderate + +	10	9	19
Severe + + +	12	3	15
Total	27	27	54

pronounced cushion-like swellings of the upper and lower with haematomas, indeed, even severe degrees of swelling of the cheek were part of the everyday appearance.

Since the institution of the corticoid therapy we have dispensed with longer administration of anti-oedema preparations such as Tanderil, Tantum and many others. The patient receives in addition only an eye compress for about 8 hours after the end of the operation, as Cottle has recommended. The upper and lower lids are immobilised with Leucoplast strips for the same period.

Since, for us, there was no doubt of the favourable action of the corticoids in the postoperative phase of rhinoplasty, it was now of interest to determine whether the application of the preparation before the operation and injected intramuscularly, because of the depot properties, would achieve an even better effect. For this purpose, a collective of 27 patients of both sexes and different ages was investigated.

The 80 mg Urbason Crijstalline Suspension was injected intragluteally 24 hours before the operation in one patient and in the next patient to be operated on, paranasally postoperatively as before. Each patient was than photographed 48 hours after the operation to provide a possibility for comparison. The two series of photographs of 27 patients each were then assessed as a blind trial by 3 neutral observers according to severity of oedema, differentiating between slight, moderate and severe oedema of the upper and lower lid with haematoma (Table 1).

The evaluation revealed a very uniform assessment of the degree of swelling by all three observers. It was shown that the local postoperative application of Urbason Crystalline Suspension is markedly superior to intramuscular application before operation, even if the numbers are too small for statistical significance. The effect of the local application is apparently explained by the rapid action of the preparation on the spot, independently of the blood level and by persistent optimal concentration at the site of injection with reduction of vascular

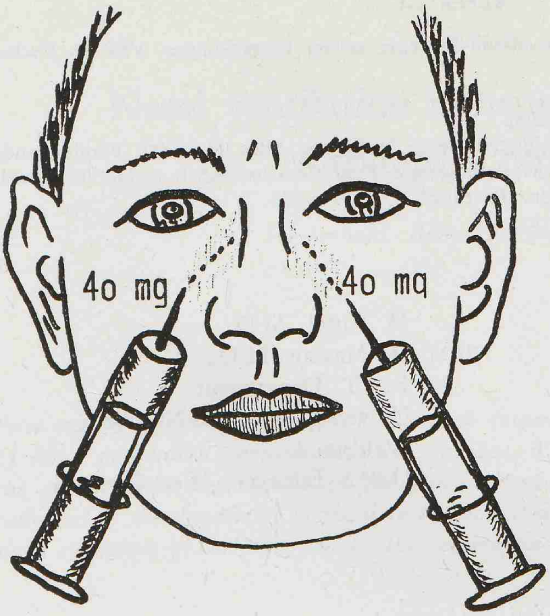

Figure 1. 40 mg of Corticoid crystalline suspension are injected on each side of the nose following surgical procedure.

permeability and stabilisation without exerting a systemic effect. For this reason we inject the Urbason Crystalline Suspension after the operation is completed 40 mg along the base of the nose at each side (Figure 1). For convenience the needle is pushed into the upper palpebral fold of the oral vestibule.

RÉSUMÉ

Trois ans d'expérience du traitement par corticoïdes de plus de 796 cas de rhinoplastie sont commentées. On observe une remarquable réduction de l'oedème post-opératoire. Il est recommandé d'injecter 40 mmg d'une suspension cristalline de corticoïdes de chaque côté de la pyramide nasale à la fin de l'intervention.

ZUSAMMENFASSUNG

Es wird über die Erfahrung mit Urbason Kristallsuspension bei 769 Fällen von Rhinoplastik in den letzten 3 Jahren berichtet. Eine bemerkenswerte Abnahme des postoperativen Oedems war zu beobachten. Aus diesem Grunde wird die Applikation von je 40 mg Urbason Kristallsuspension, paranasal injiziert, empfohlen.

REFERENCES

1. Beickert, A., 1968: Die Glucokortikoid-Therapie innerer Erkrankungen. VEB G. Fischer Verlag Jena, 2. Auflage.
2. Härtel, P.: Ref. by Möllmann.
3. Kittel, G.: Personal communication.
4. Möllmann, H., v. Klot-Heydenfeldt, Niemeyer, D. H. and Alfes, H., 1972: Vergleichende Untersuchungen der Korngrössenverteilung und Partikelbeschaffenheit einiger Corticoid-Kristallsuspensionen. Int. J. clin. Pharmcol., 5,4, 434-443.
5. Smith, T.: Personal communication.

H. Kittel, M.D.,
H. Masing, M.D.,
E.N.T. Department
University Erlangen-Nürnberg,
Waldstr. 1,
D-852 Erlangen, West-Germany.