CLINICAL RECORDS

ANDROGENIC HOARSENESS

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Introduction

In the last 12 months five women have presented with persistent hoarseness which subsequently proved to be due to testosterone; all of them were on preparations combining methyltestosterone with Œstradiol. The hormones had not been suspected and they were not even mentioned by either doctor or patient. Four patients were on tablets containing 3 mg. methyltestosterone t.d.s. and one patient on a tablet containing 4 mg. methyltestosterone t.d.s..

Case Reports

Case I.

F.C., aged 44. Hoarse for 5 months. On hormones for 11 months, (9 mg. methyltestosterone daily) for menopausal symptoms and nervousness. Initially the hormone treatment was combined with Librium, but the latter was soon stopped. She had increased hair on her upper lip and legs. She had no cough or nasal symptoms and was a non-smoker. She was a member of a choral society, but was not rehearsing at the time of onset of the symptoms. Her larynx showed minimal injection of the vocal cords, and her tonsils were infected. X-ray chest and sinuses clear. W.R. negative. Hæmoglobin 91 per cent. Weight: 16 st. 10 lb. Family—4 children.

Treatment: Withdrawal of hormones. Four months after all hormones were stopped her voice improved, but she was still unable to reach the higher notes when singing. She had much less hair on her face and legs; larynx unchanged.

Case II.

T.T., aged 49. Hoarse for 8 months. On hormones for 1 year (9 mg. methyltestosterone daily) for menopausal symptoms with heavy frequent loss. No excessive growth of hair. She had no cough or nasal symptoms, and was a non-smoker. Her larynx showed slight injection of the vocal cords with full movements. X-ray chest and sinuses showed only calcified gland at left hilum. W.R. negative. Hæmoglobin 80 per cent., some anisocytosis. Weight: 8 st. 12 lb. Family—1 child.

Treatment: To stop hormones and start iron by mouth. Sudden stopping resulted in withdrawal bleeding so she continued with one tablet daily for some weeks and then stopped altogether with no further loss. Two months later her voice showed some improvement, but when singing she was unable to hit the

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note accurately, and the pitch of her voice had dropped for both high and low notes.

Case III.

A.D., aged 48. Hoarse for 3 months. On hormones for 2 years (9 mg. methyltestosterone daily) for menopausal symptoms. She had no excessive growth of hair; her larynx looked completely normal. She had no cough or nasal symptoms, and was a non-smoker. X-ray chest and sinuses clear. W.R. negative.

Treatment: Stop hormones. Although her voice showed some improvement it had not returned to normal after several months.

Case IV.

R.O., aged 53. Hoarse for 3 months. On hormones for 6 months (9 mg. methyltestosterone daily) for menopausal symptoms. Increased growth of hair on face. She had no cough or nasal symptoms and was a non-smoker. Larynx showed full movements of vocal cords which were slightly injected. They were completely smooth. X-ray chest and sinuses clear. W.R. negative. Hæmoglobin 101 per cent. Weight: 11 st. 7½ lb. Family: three children.

Treatment: Stop hormones. There was no withdrawal bleeding, and after some months her voice had improved, but the pitch was lower for both high and low notes. There was still injection of the vocal cords.

Case V.

K.B., aged 42. Hoarse for 3 months. On hormones for 1 year (12 mg. methyltestosterone daily) for post-hysterectomy symptoms and migraine. Increased growth of hair on face and thighs. Her larynx showed the vocal cords to be pale with full movements. She had no cough or nasal symptoms and was a non-smoker. X-ray chest and sinuses clear. W.R. negative. Hæmoglobin 95 per cent. Family—no children.

Treatment: Stop hormones. After 3 months her voice improved although it was still deeper than before. There was complete disappearance of excess hair.

Discussion

Five cases of testosterone-produced hoarseness are described in women between 42 and 53. They presented *de novo* in the E.N.T. Department and their symptoms had not been attributed to their hormones; although the vogue for the use of mixed hormone preparations in the treatment of the climacteric syndrome is passing, the plethora of such products indicates that they are still widely used (*British Medical Journal:* Current Practice, 1965). The virilizing effect of these drugs is well known to the gynæcologists and in much larger doses to those concerned with the treatment of the malignant disease of the hormone controlled organs, particularly carcinoma of the breast.

All five patients were on treatment for at least 3 months before the onset of symptoms.

The dosage for four of them was 270 mg. of methyltestosterone per month, and for the fifth patient 360 mg. of methyltestosterone per month. The doses

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are within the recommended limits of the manufacturers and approximate to the 300 mg. of methyltestosterone per month with which virilizing effects may be expected (Rennhofer, 1955). All patients had voice changes, but only three had growth of hair of male distribution, confirming the observation of Arndt (1963) that the first androgenic effects occur in the larynx.

The voice change was not a true hoarseness for the volume of sound was not lessened, but a deepening of the voice with a lowering of both the upper and lower limits and also an inability to hit a note accurately. It is not surprising therefore that the patients who did not sing complained less than those who did.

The appearance of the larynx in two patients was completely normal and in the others there was slight injection of the vocal cords. There was no obvious increase in the size of the larynx in any case.

The pathology responsible for the voice changes is variously described. Perello (1964) attributes the changes to a thickening of the intermediate layer of the mucous membrane, while Gerosa (1960) postulates an increase in the volume and strength of the intra- and extra-laryngeal muscles. Clinically however, the larynx looks normal except for injection of the cords in some cases (a finding not uncommon in patients with no voice complaint).

On stopping the drug, although in all patients there was some improvement in the voice, it did not return to normal in any of them after several months. The abnormal hair disappeared within a few weeks. The failure of the voice to recover completely confirms the observation of others as far apart as Toyko (Okamura, 1964) and Utrecht (Damste, 1964).

Summary

Five patients with hoarseness due to methyltestosterone are described, who presented *de novo* in the E.N.T. Department. All patients had approximately 300 mg. methyltestosterone per month. Symptoms did not develop until after 3 months on hormones. The only change noted in the larynx was slight injection of the vocal cords in some cases. Abnormal hair was present in three cases and it disappeared within a few weeks of stopping the drug, but the voice changes had not cleared completely after several months.

REFERENCES

Arndt, H. J. (1963) *Dtsch. med. Wschr.*, **88**, 2336.
British Medical Journal: Current Practice (1965) *Brit. med. J.*, **1**, 976.
Damste, P. H. (1964) *Folia phoniat.* (*Basel*), **16**, 10.
Gerosa, H. N., Barba, A. and Wells de Piccoli, E. (1960) *Sem. med.* (*B. Aires*), **117**, 1161.
Okamura, M. *et al.* (1964) *Otolaryngology* (*Tokyo*), **36**, 409.
Perello, J. (1964) *Acta oto-rino-laring. ibero-amer.*, **15**, 139.
Rennhofer, G. (1955) *Prakt. Artz* (*Wien*), **9**, 692.

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