Epistaxis and hypertension

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Summary

The status of nose bleeding as a symptom of high blood pressure has been studied in patients admitted because of epistaxis. Twenty-six patients with a factor predisposing to nasal bleeding had age- and sex-adjusted systolic and diastolic scores similar to those of the general population. One hundred and sixty-eight patients with no such factor formed a different population with significantly higher age- and sex-adjusted systolic and diastolic scores. It is concluded that epistaxis is a true symptom of hypertension.

Introduction

Epistaxis has long been included amongst the symptoms purported to be associated with hypertension (Riseman and Weiss, 1930). However, examination of current medical textbooks reveals a complete disagreement as to the validity of this association, and a recent review of blood pressure symptoms (Leading Article, 1976) made no reference to epistaxis. Two studies seeking a relationship between the two have given contradictory results (Mitchell, 1959; Weiss, 1972). The blood pressure of patients admitted to this hospital with epistaxis has been studied and is now reported.

Patients, methods and results

The case-notes of 194 patients (105 male and 89 female) admitted to hospital with epistaxis between October 1973 and October 1975, were studied. The age range was 11-97 years (mean 57.8 years). Twenty-six patients (thirteen male, thirteen female; mean age 52.6 years) had a condition predisposing to epistaxis, i.e. local nasal disease or trauma (twenty-three), haemorrhagic telangiectasia (one), clotting factor defect (one) and thrombocytopenia (one); while 168 patients (ninety-two male, seventy-six female; mean age 62.9) had no such condition.

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Thirty-six patients (21.4%) in the latter group were taking anti-hypertensive therapy before admission. The blood pressures during recovery were utilized to exclude possible error due to initial blood loss. The pressures were then converted to an age- and sex-adjusted systolic and diastolic score representing the deviation of the observed pressure from the mean for the general population at age 60, thus allowing direct comparison between the groups (Hamilton *et al.*, 1954). The significance of results was assessed using Student's *t*-test.

The results are summarized in Table 1. The scores for patients with a factor predisposing to epistaxis are close to zero and are thus similar to a sample taken from the general population. Patients without a predisposing factor form a different population with systolic and diastolic scores significantly higher in both sexes. Within the latter group patients already treated for hypertension form a population with significantly higher scores than the group as a whole (male: systolic and diastolic scores, $P < 0.001$; female: systolic score, $P < 0.001$; diastolic score, $P < 0.02$).

Discussion

The results are in agreement with those of Mitchell (1959) for diastolic pressure using similar methods of examination. Furthermore, higher scores in patients known to be hypertensive before admission suggest that epistaxis was associated with inadequate blood pressure control in this group. The United States Health Examination Survey of Adults (Weiss, 1972) using data from self-administered questionnaires showed no relation of either systolic or diastolic blood pressure to epistaxis, but the subjectivity of such data and underestimation of symptom frequency due to failure of recollection are aspects of the method which may partly explain the discrepancy of results. The findings of the present study are consistent with an association between epistaxis and high blood pressure.

TABLE 1. Systolic and diastolic scores of patients admitted with epistaxis

		With predisposing factor			No predisposing factor			P Value
		Number	Mean	s.d.	Number	Mean	s.d.	
Male	Systolic	13	3.1	5.5	92	23.5	3.4	<0.001
	Diastolic		5.8	3.3		19.7	1.8	<0.001
Female	Systolic	13	4.1	3.9	76	9.3	4.1	<0.01
	Diastolic		0.8	2.2		12.5	2.0	<0.001

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