The Journal of Laryngology and Otology
December 1999, Vol. **113,** pp. 1086–1088

Coagulation studies in patients admitted with epistaxis - current practice in Scotland

S. HOLLAND, B.Sc., M.B., CH.B., M. A. THAHA, M.B., B.S., E. L. K. NILSSEN, F.C.S. (ORL) S.A., F.R.C.S. (ORL), D.L.O., P. S. WHITE, F.R.A.C.S., F.R.C.S.(ED.)

Abstract

Epistaxis remains the most common ENT emergency. The use of coagulation studies in Scotland to manage these patients was investigated to determine current practice. The study took the form of a postal questionnaire sent to all practising ENT consultants and a telephone survey of ENT senior house officers working in Scotland. Of the 60 questionnaires circulated amongst consultants, 55 responses were received (92 per cent). Thirty-eight consultants (70 per cent) indicated that they did not routinely request a coagulation screen for their patients, however, 30 per cent (16) did. Forty-three of the 45 junior staff were available for interview, 22 (51 per cent) of whom routinely requested coagulation studies. While the majority of consultants did not request routine coagulation studies, there did not appear to be any consensus among the junior staff. Although there is a paucity of scientific information with regard to this aspect of epistaxis patient management, there is support in the literature for targeted rather than blanket testing. There is perhaps a need to address this issue within individual departments, to achieve uniformity of practice, and to improve communication between junior and senior staff.

Key words: Epistaxis; Blood coagulation tests

Introduction

As a result of the move toward the establishment of clinical guidelines to improve the quality of care delivered to patients in the NHS, there has developed a need to evaluate current practice in common conditions with the aim of delivering cost-effective and evidence-based health care. As epistaxis is one of the most common emergency conditions treated by the ENT service it is an important area for study in this regard (Kotecha *et al.*, 1996). It has been reported that the incidence of admission with epistaxis in Scotland is 28.8 per 100 000 (Small and Maran, 1994). Previous studies have suggested that the use of routine coagulation screens in patients admitted with epistaxis are of limited value and that they should be requested only when there is a specific clinical indication (Jackson and Jackson, 1988; Smith *et al.*, 1988). However, if one reviews some of the common ENT texts on this subject most authors recommend investigation for underlying coagulopathies (O'Donoghue *et al.*, 1992; Maceri, 1993; Becker *et al.*, 1994). The recently revised standard text for the UK suggests that for habitual bleeders or in cases of suspected blood dyscrasias investigation is appropriate (Watkinson, 1998). In the present climate where evidence-based medicine (EBM) is assuming greater importance one needs to use the best available evidence to not only improve patient care (Sackett *et al.*, 1998) but also to deliver cost-effective medical treatment.

It has become apparent that practice with regard to requests for coagulation studies can be quite variable. The aim of this study was to evaluate current practice among consultant ENT surgeons in Scotland and their junior staff in the use of routine coagulation screen in patients admitted with epistaxis. Coagulation studies for the purpose of this study were taken to mean prothrombin time (PT) and activated partial thromboplastin time (APTT). The degree of consensus of practice among and indeed between the senior and junior ENT staff was specifically addressed.

Materials and methods

The study took the form of a postal survey in which a short questionnaire (Appendix 1) together with a pre-paid, self-addressed envelope was sent to all practising ENT consultants in Scotland. This list of consultants was drawn up utilizing the Scottish Otolaryngological Society and the British Association of Otolaryngologists and Head and Neck Surgeons membership register. To maximize the response rate a repeat questionnaire was sent to consultants who did not reply within three weeks. It

From the Department of Otolaryngology – Head and Neck Surgery, Ninewells Hospital, Dundee, UK.
Accepted for publication: 28 September 1999.

was decided that a response rate of over 60 per cent would be required to allow any meaningful conclusions to be drawn from the survey.

All senior house officers (SHOs) working in ENT departments in Scotland were contacted at work by telephone and were invited to participate in the study by answering a short questionnaire (Appendix 2). The ENT departments were inferred from the aforementioned list of consultants and the departmental secretaries supplied details of all the current SHOs working in each unit.

Results

Of the 60 questionnaires circulated amongst the practising consultants in Scotland, 55 responses were received (92 per cent). Forty-eight (80 per cent) replies were received after the first round of questionnaires and a further seven (12 per cent) responded after receiving a second questionnaire. One consultant was excluded on the basis that he did not receive emergencies. Of those who replied, 38 consultants (70 per cent) indicated that they did not routinely request a coagulation screen on their patients, however, a significant number of consultants, 16 (30 per cent), indicated routine coagulation studies formed part of their practice in managing patients admitted with epistaxis. There was no difference between consultants practising in Teaching Hospitals (71 per cent did not request coagulation studies) versus District General Hospitals (80 per cent did not request coagulation studies).

The circumstances in which those consultants who did not routinely request these investigations found it necessary to do so included: when patients were on anticoagulant medications, persistent bleeding despite usual treatment measures or the presence of any other factors which aroused clinical suspicion of a potential underlying bleeding diathesis.

In total 45 junior staff were identified, of these 43 (42 SHOs and one JHO) were interviewed but two could not be contacted. Twenty (48 per cent) were career ENT SHOs, 13 (31 per cent) GP trainees and nine (21 per cent) were on a basic surgical training rotation. The ENT experience of the SHOs ranged from two to 120 months with an average experience of 18 months (standard deviation = 26 months).

Twenty-two SHOs (51 per cent) routinely requested a coagulation screen on all patients requiring admission for epistaxis. The remaining 21 (49 per cent) only requested a coagulation screen in the presence of a specific indication. This dichotomy in SHO practice (± 50 per cent split) was found in both Teaching and District General Hospitals. Within individual units there also did not appear to be consensus of practice between the consultant and SHO staff.

Figure 1 illustrates practice according to each type of SHO. Only four units were reported as having a written protocol providing guidelines on the need for routine coagulation screening to aid their junior staff in the management of epistaxis admissions.

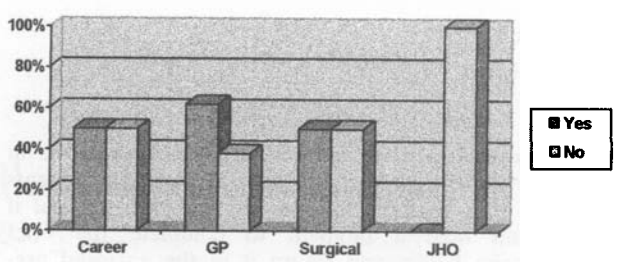

FIG. 1
Routine coagulation screening among SHOs.

Discussion

This postal and telephone survey has attempted to evaluate current Scottish practice with regard to the use of routine coagulation studies in the management of epistaxis patients. The extremely high response rate of 92 per cent among consultant ENT surgeons illustrates that not only is this an area of significant interest but also reflects an awareness of the need to evaluate current practice in a climate which places considerable emphasis on the need for audit and establishment of best clinical practice.

The results suggest that practice amongst consultants shows a significant degree of uniformity, however, a number of consultant ENT surgeons (30 per cent of those surveyed) do request coagulation studies on a routine basis. The analysis of the results in respect of the junior staff involved in the care of these patients shows little or no consensus in requesting coagulation studies. This is made all the more significant in that SHOs are often more directly involved in the initial care of epistaxis patients and it may often be the SHO who has to decide whether or not a coagulation screen is necessary. In addition, there was a notable difference in practice between the consultants and the junior staff (30 per cent vs 50 per cent routinely requesting coagulation screening). This may highlight a need for more effective communication between junior and senior staff.

Some studies looking at the value of routine coagulation screening have suggested that unless there is a specific indication it is not required or indeed useful in the management of these patients (Jackson and Jackson, 1988; Smith *et al.*, 1988). A recent review of this practice in our unit supports the findings of the aforementioned papers and these tests have significant financial implications (Thaha *et al.*, 1999 in press).

In conclusion there would appear to be a discrepancy between the findings of studies conducted in the past and guidelines found in certain of the available textbooks. It is therefore not surprising that practice is variable. It would be of value for each individual unit to review its policy with regard to this aspect of the management of epistaxis patients and to institute change in practice if indicated. The establishment or re-emphasis of existing departmental guidelines on the use of coagulation studies is to be encouraged so as to achieve greater uniformity of practice based on the principles of EBM.

Appendix 1

Dear Colleague,

PLEASE DON'T BIN THIS!

We are interested in ascertaining current practice in Scotland with regard to coagulation tests in patients admitted with epistaxis. We would be most grateful if you would take a moment to complete the brief questionnaire below and return it in the enclosed pre-paid, self-addressed envelope.

Do you routinely request a coagulation screen (PTR, APTT) in patients admitted with epistaxis?

Please tick

YES ☐

NO ☐

If you answered NO, please describe the circumstances in which you would request coagulation tests in epistaxis patients?

S. Holland, M.A., Thaha, E.L.K. Nilssen and
P.S. White (Consultant)
Department of Otolaryngology,
Ninewells Hospital and Medical School,
Dundee, UK.

Appendix 2

Telephone questionnaire

1. Type of Trainee (Career, Surgical, GP, others)
2. ENT experience in months
3. Do you routinely request coagulation screen for all the epistaxis patients you admit?
4. If not would you request a coagulation screen if any of the following factors are involved in the patient history (Warfarin, aspirin, combination of warfarin and aspirin, bleeding diathesis, significant alcohol intake, liver disease, severe recurrent bleeding)

References

Becker, W., Nauman, H. H., Pfaltz, C. R. (1994) Clinical aspects of diseases of the nose. In *Ear, Nose and Throat Diseases – A Pocket Reference* 2nd revised Edition (Buckingham, R. A., ed.) Thieme, Stuttgart, pp 253–260.

Jackson, K. R., Jackson, R. T. (1988) Factors associated with active refractory epistaxis. *Archives of Otolaryngology and Head and Neck Surgery* **114:** 862–865.

Kotecha, B., Fowler, S., Harkness, P., Walmsley, J., Brown, P., Topham, J. (1996) Management of epistaxis: a national survey. *Annals of the Royal College of Surgeons of England* **78(5):** 444–446.

Maceri, D. R. 91993) Epistaxis and nasal trauma. In *Otolaryngology – Head and Neck Surgery*. 2nd Edition (Cummings, C. W., Frederickson, J. M., Schuller, D. E., eds.) Mosbey – Wolfe, Baltimore, pp 723–735.

O'Donoghue, G. M., Bates, G. J., Narula, A. A. (1992) Epistaxis. In *Clinical ENT: An Illustrated Textbook*. Oxford University Press, New York, pp 120–125.

Sackett, D. L., Richardson, W. S., Rosenberg, W., Haynes, R. B. (1998) In *Evidence based medicine. How to Practice and Teach EBM*. Churchill Livingston, Edinburgh, pp 1–20.

Small, M., Maran, A. G. D. (1994) Epistaxis and arterial ligation. *Journal of Laryngology and Otology* **98:** 281–284.

Smith, I. M., Ludlam, C. A., Murray, J. A. (1988) Haematological indices in elderly patients with epistaxis. *Health Bulletin* **46(5):** 227–281.

Thaha, M. A., Nilssen, E. L. K., Holland, S., Love, G., White, P. S. Routine coagulation screening in the management of emergency admission for epistaxis – is it necessary? *Journal of Laryngology and Otology* (in press).

Watkinson, J. C. (1988) Epistaxis. In *Rhinology Scott – Brown's Otolaryngology* 6th Edition (MacKay, I. S., Bull, T. R., eds.), Butterworth-Heinemann, Oxford, pp 4/18/1–19.

Address for correspondence:
Mr E. Nilssen,
Department of Otolaryngology – Head and Neck Surgery,
Ninewells Hospital,
Dundee DD1 9SY.