

Prophylaxis for venous thromboembolism in head and neck surgery: the practice of otolaryngologists

K. W. AH-SEE, M.D., F.R.C.S.(ED.), F.R.C.S.(GLAS.), J. KERR, M.B., CH.B.,
D. W. SIM, M.Sc., F.R.C.S.(ED.), D.L.O.

Abstract

Deep venous thrombosis (DVT) and pulmonary embolism (PE) are an important cause of morbidity and mortality in the surgical patient. The first guideline produced by the Scottish Intercollegiate Guidelines Network was for the prophylaxis of venous thromboembolism. Patients undergoing major head and neck cancer surgery commonly exhibit risk factors for venous thromboembolism. Currently, however, there are no data on its incidence in these patients. A questionnaire survey was performed to assess the current practice of consultant otolaryngologists regarding DVT prophylaxis in patients undergoing head and neck cancer surgery. Of those respondents who managed these patients, 57 per cent did not use routine DVT prophylaxis while 43 per cent did. A wide variety of techniques were employed among those practising DVT prophylaxis.

A consensus is needed concerning the use of thromboembolism prophylaxis in head and neck surgery patients.

Key words: Deep venous thrombosis; Pulmonary embolism; Head and neck neoplasms

Introduction

Patients undergoing major extirpative head and neck surgery frequently exhibit risk factors for deep venous thrombosis (DVT) such as old age, malignant disease and an hypercoagulable state (secondary polycythaemia) (Weinmann and Salzman, 1994). Anecdotally the incidence of DVT and pulmonary embolism (PE) in these patients is low. There are, however, no published data on this issue.

Recent interest in evidence-based medicine has seen the development of projects such as the Cochrane collaboration and the Scottish Intercollegiate Guidelines Network (SIGN). The latter aims to establish national guidelines for clinical practice based on the available levels of evidence while the Cochrane collaboration was developed to prepare, maintain and disseminate systematic, up-to-date reviews of randomized controlled trials of health care (Cochrane collaboration). The first SIGN approved guideline published was for DVT prophylaxis (Figure 1) (SIGN, 1995). While clearly focusing on areas with a high documental incidence of DVT/PE such as trauma, orthopaedic, general and gynaecological surgery (Das, 1994), patients undergoing major head and neck surgery are not mentioned in the recommendations for prophylaxis (Tables I and II).

Our own experience, however, with DVT and PE in two recent patients following surgery for head and neck cancer has led us to initiate a prospective study of the incidence of DVT in similar patients following surgery (both of our recent patients suffered clinical symptoms of DVT with one complaining of pleuritic chest pain. DVT was confirmed in both patients with ascending venography while the patient with chest pain had an equivocal V/Q scan).

As a preliminary part of our larger study we have carried out a national questionnaire survey of otolaryngology consultants to establish the extent of currently practised DVT prophylaxis.

Materials and methods

Details of all full members (consultants) of the British Association of Otolaryngologists and Head and Neck Surgeons (BAO-HNS) was obtained. All full members within Scotland and a random sample of 60 consultants from England and Wales were sent a simple postal card questionnaire. Members were asked the following questions:

- (1) Do you routinely manage patients with head and neck cancer?
- (2) If yes to Q1 do you routinely institute any DVT prophylaxis?
- (3) If yes to Q2 what do you use?

All questionnaire cards were stamped and addressed for their return.

From the Department of Otolaryngology, City Hospital, Edinburgh, UK.
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SIGN

Prophylaxis of Venous Thromboembolism

A Quick Reference Guide

Derived from the National Clinical Guideline recommended for use in Scotland
by the Scottish Intercollegiate Guidelines Network.

All hospital patients who have reduced mobility due to trauma surgery, acute illness or puerperium merit consideration for specific antithrombotic prophylaxis, using mechanical methods and/or antithrombotic drugs.

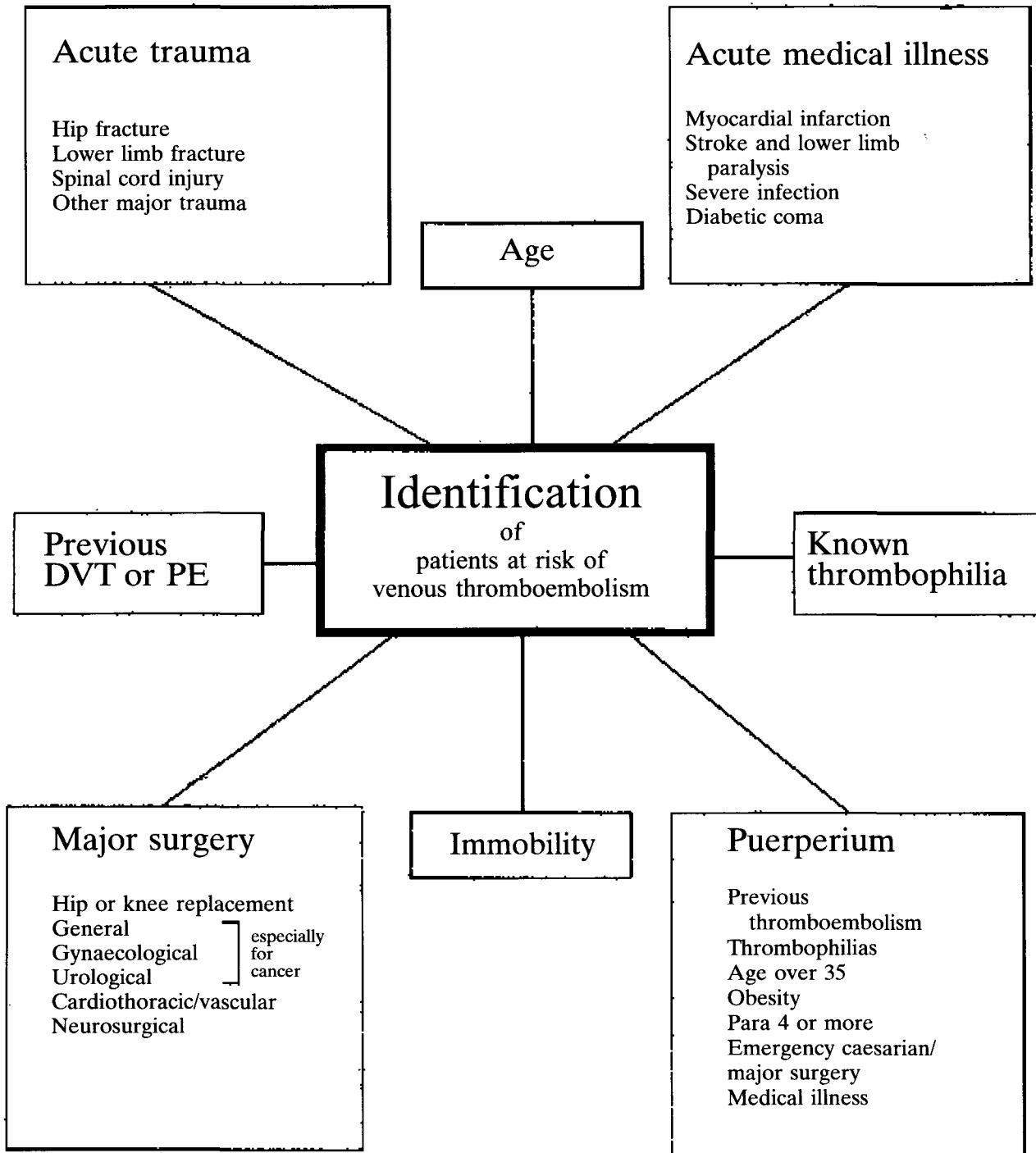


FIG. 1

Quick reference guide produced by SIGN indicating those patients with moderate to high risk of thromboembolism for whom some form of prophylaxis (mechanical and/or pharmacological) might be considered (SIGN, 1995).

TABLE I
RECOMMENDATIONS FOR TYPES OF PROPHYLAXIS TO BE USED IN DIFFERENT PATIENTS ACCORDING TO THE GRADE OF EVIDENCE AVAILABLE (SIGN, 1995)

	Low dose heparin	LMW heparin	Warfarin	Dextran 70	IPC/GECS
Hip fracture or lower limb fracture		A	A	A	
Spinal cord injury	B (adjusted dose)	C			C
Other major trauma	C	C	C		C
Intracranial neurosurgery					A
Hip replacement	A (adjusted dose)	A	A	A	A
Knee replacement		A	A		A
Other major surgery	A	A	A	A	A
Myocardial infarction	A		A		C
Stroke	A				C
Other medical illness	C		C		C
Puerperium	C	C	C		C

LMW = low molecular weight.
IPC = intermittent pneumatic compression.
GECS = graduated elastic compression stockings.

Results

Response

One hundred and ten questionnaires were distributed. Seventy-five questionnaire cards were returned (68 per cent).

Of those that replied 35 (47 per cent) answered that they were not routinely involved in the management of these patients. The remaining 40 (53 per cent) responded yes to question 1 (Figure 2).

Twenty-three consultants (23 out of 40, 57 per cent) who routinely managed head and neck cancer patients replied that they did not use any DVT prophylaxis routinely. The remaining 17 (43 per cent) respondents used some form of prophylaxis (Figure 3). A wide variety of types of prophylaxis were mentioned (Figure 4). The total number of methods mentioned is greater than 17 as several respondents described multimodality prophylaxis. The commonest combinations included subcutaneous heparin with compression stockings (seven out of 17, 41 per cent, three also include early mobilization) (Figure 5).

TABLE II
DEFINITIONS OF THE GRADES USED IN TABLE I (SIGN, 1995)

Grade	Recommendation
A	Required – at least one randomized controlled trial as part of the body of literature of overall good quality and consistency addressing the specific recommendation.
B	Required – availability of well-conducted clinical studies but no randomized clinical trials on the topic of recommendation.
C	Required – evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities. Indicates absence of directly applicable clinical studies of good quality.

Discussion

DVT and its complication, pulmonary embolism, continue to affect a significant proportion of patients undergoing general and orthopaedic surgery (Das, 1994). Indeed, an estimated 27 per cent of patients undergoing elective general surgical procedures without any form of prophylaxis will develop a DVT (Colditz *et al.*, 1986). A large body of evidence exists on the prevention of venous thrombosis in general surgical patients (Clagett and Reisch, 1988), nonetheless there is evidence that clinical practice still varies widely among surgeons (Morns, 1980).

SIGN guidelines exist for DVT prophylaxis (Figure 1). Head and neck surgery patients often exhibit recognized risk factors including age, malignant disease, polycythaemia and prolonged surgery.

General clinical practice would suggest that the incidence of DVT/PE in these patients is low, however we feel data are required to establish an estimate of the incidence of this problem in patients undergoing head and neck surgery.

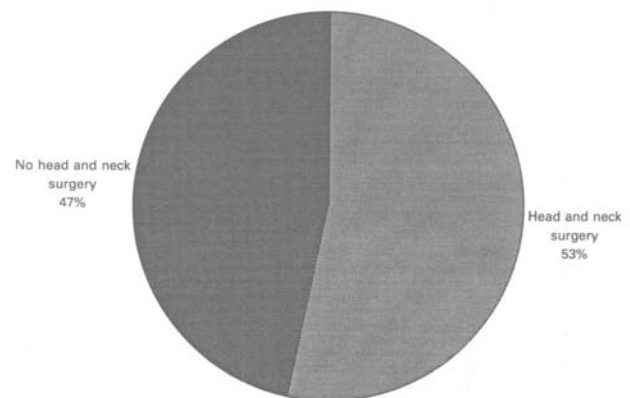


FIG. 2

Pie-chart showing the response to Question 1, 'Do you routinely manage head and neck cancer patients?'.

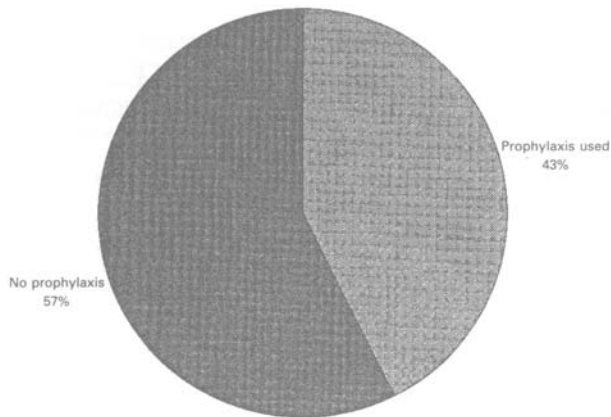


FIG. 3

Pie-chart showing the response to Question 2, 'If YES to question 1 do you routinely institute any DVT prophylaxis?'

The results of this preliminary survey of current practice among a sample of ENT consultants would suggest that there is confusion as to the 'best practice' in this situation. Indeed, ENT consultants managing head and neck cancer patients appear to be polarized as to the need for any form of DVT prophylaxis at all. Likewise among those who do routinely institute some form of prophylaxis there is a clear lack of consensus as to the modality of choice (Figures 4 and 5).

There remains, therefore, a significant but as yet unanswered question, namely what is the incidence of DVT in these patients? If it is low, and this would have to be defined, then should any form of prophylaxis be used at all? These questions have recently been raised but again it would appear that individual surgeons develop their own guidelines (Dawes, 1997).

Current guidelines would recommend compression stockings for low risk patients (Verstraete, 1997). Conversely, a significant incidence would demand the routine use of further prophylactic measures. Medium to high risk patients should receive subcutaneous heparin according to the available scientific evidence (Verstraete, 1997). We

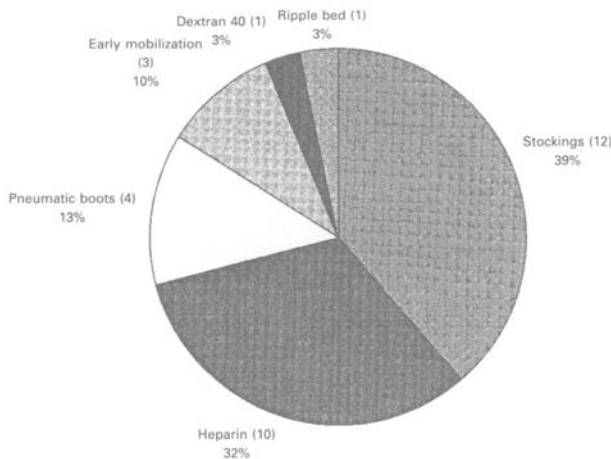


FIG. 4

Pie-chart showing the different types of DVT prophylaxis mentioned by the respondents in the study. Actual numbers in brackets.

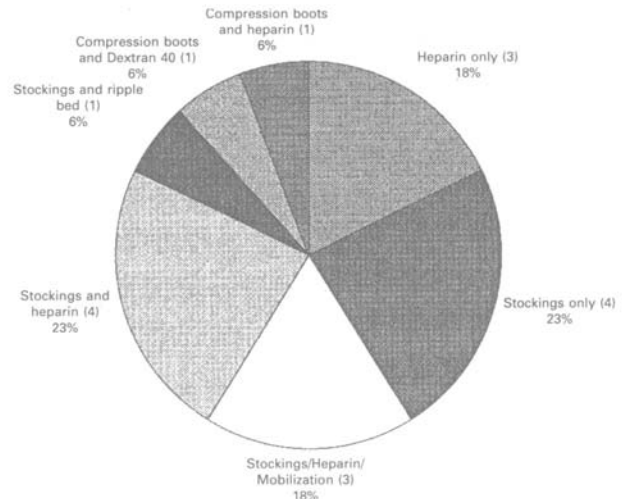


FIG. 5

Pie-chart showing the practice of the individual consultants who routinely institute DVT prophylaxis in head and neck cancer surgery. Actual numbers in brackets.

have recently embarked on a pilot study of ascending venography performed five days post-operatively on consecutive patients undergoing major surgery for head and neck malignancies. Lothian Health regional ethical committee approval has been granted for this study. Clearly, however, a large number of patients may be required for the definitive study and as such a multicentre project is likely to be required.

Conclusion

The practice of DVT prophylaxis is polarized among ENT consultants. In addition the methods used vary among the different consultants who responded. Despite the existence of SIGN guidelines for the prevention of thromboembolism, head and neck cancer patients are not specifically mentioned. The incidence of DVT/PE in these patients is unknown but is currently being investigated in our department. A consensus is required on the issue of thromboembolism in the patient with head and neck cancer.

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Address for correspondence:
Dr K. W. Ah-See,
Department of Otolaryngology,
City Hospital,
Greenbank Drive,
Edinburgh EH10 5SB.

Fax: 0131-536-6167.