

Spontaneous retropharyngeal haematoma: two cases and a review of the literature

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Abstract

Retropharyngeal haemorrhage is a rare condition. The classical picture is described as a triad of features; superior mediastinal obstruction, anterior displacement of the trachea on a plain X-ray of the neck and subcutaneous bruising appearing on the neck and spreading on to the chest wall (Sandor and Cooke, 1964). Two cases are reported here, neither of which had mediastinal compression. The available literature is summarized.

Key words: Haematoma, retropharyngeal

Introduction

Retropharyngeal haematoma is an uncommon condition. Many causes have been reported including trauma (even minimal such as coughing or muscular exercise), surgery, retropharyngeal sepsis, carotid aneurysm, presence of an aberrant artery at the thoracic inlet or spontaneous bleeding in association with anticoagulant therapy or bleeding diatheses (MacKenzie and Jellicoe, 1986).

Twenty-three cases of retropharyngeal haematoma have been reported in the literature, most of which have clear causes. Only three cases are reported where no clear cause is found (Epstein and Klassen, 1960; Sandor and Cooke, 1964; Hennessy and Martinez, 1970).

Two further cases of spontaneous bleeding are presented here and the literature reviewed.

Case 1

A 69-year-old lady was admitted with a three-day history beginning with a sudden feeling of a strange sensation in the left side of her neck which was rapidly replaced by pain, progressive dysphagia and mild dysphonia. She suffered from mild angina for which she was taking aspirin (75 mg daily).

Examination revealed a diffuse swelling in the neck and tenderness anteriorly and on the left. Laryngeal crepitus was absent and indirect laryngoscopy showed a red swollen left vocal fold. Twelve hours after admission she developed extensive bruising of the skin over the front of the neck and chest. Coagulation tests were normal but a lateral neck X-ray showed anterior displacement of the trachea by a soft tissue swelling. Computerized tomography (CT) of the neck showed a large retropharyngeal mass, compatible with a haematoma (Fig. 1).

Her aspirin was stopped on admission and her symptoms progressed no further. She made an uncomplicated recovery and a further CT scan four weeks later confirmed resolution of the haematoma.

Case 2

A 59-year-old lady presented with a short history of dysphagia and dysphonia of rapid onset. She suffered from hypertension

which was controlled on nifedipine and timolol. On the day of admission she had awoken with bruising over the anterior chest wall and neck.

Examination showed that the posterior pharyngeal wall mucosa was a deep purple colour. Mild supraglottic oedema was also present. Laryngeal crepitus was absent. Coagulation tests were normal and anterior displacement of the trachea was clearly shown on lateral X-ray of the neck. A CT scan demonstrated a retropharyngeal mass similar to Case 1.

Her recovery was uncomplicated with no further specific



FIG. 1
CT scan of Case 1 showing a large left retropharyngeal mass.

TABLE I
RETROPHARYNGEAL HAEMATOMA

Causes and incidence of retropharyngeal bleeding		
Cause	No of cases	Reference
Trauma	5	Irvine, 1984; Stein & Herschberg, 1970; Miller, 1970; Field, 1965; Logan & Doby, 1962
Abscess	1	Hayes, 1964
Anticoagulation	8	Macik <i>et al.</i> , 1989; Thatcher & George, 1987; Rosenbaum <i>et al.</i> , 1979; Genovesi & Simmons, 1975; Owens <i>et al.</i> , 1975; Reussi <i>et al.</i> , 1969
Bleeding diatheses	1	Mackenzie & Jellicoe, 1986
Aneurysm	1	Weaver & Young, 1964
Minor trauma	3	O'Neill <i>et al.</i> , 1977; Hennessy & Martinez, 1970
Spontaneous	3	Sandor & Cooke, 1964; Epstein & Klassen, 1960
Other	1	Capps, 1934

treatment required. A lateral neck X-ray four weeks later confirmed that the swelling had resolved itself.

Discussion

Serious retropharyngeal bleeding is rare. Only 23 cases have been described in the literature. There is usually an obvious cause and Table I shows the range of causes. Spontaneous bleeding can occur and has been described in three cases (Table I), fortunately the bleeding in this situation seems to be less serious.

The retropharyngeal space is the area of loose connective tissue lying between the pharynx and the alar layer of prevertebral fascia. It extends from the skull base to the level where the prevertebral fascia fuses with the visceral layer of the oesophagus, at a variable level between the C7 and T4 vertebrae (Sandor and Cooke, 1964). Above this level the pretracheal, parapharyngeal and retropharyngeal spaces are in communication with each other. These spaces communicate with the submandibular space and therefore with the subcutaneous spaces of the neck (Sandor and Cooke, 1964). Consequently bleeding into the retropharyngeal space allows blood to spread from the skull base down to the mediastinum. Because of the connections to the parapharyngeal spaces it can reach the anterior neck and manifest itself as subcutaneous bruising.

The clinical picture is usually a triad of features:

- (i) Superior mediastinal obstruction.
- (ii) Anterior displacement of the trachea on plain X-ray of the neck (the normal dimensions on neck X-rays have been described by Wholey *et al.*, 1958).
- (iii) Bruising appearing on the neck within 48 hours and spreading onto the chest wall (Sandor and Cooke, 1964).

Superior mediastinal compression may rapidly supervene in the more serious cases and airway obstruction often occurs regardless of the cause of the bleeding (Owen *et al.*, 1975). The obstruction may be self-limiting or progress to require intervention (Rosenbaum *et al.*, 1979).

In these circumstances, with the trachea displaced by haematoma and associated oedema, endotracheal intubation can be hazardous and rupture of the trachea may occur (O'Neill *et al.*, 1977). Tracheostomy can also be difficult and either of these procedures can lead to further bleeding in the neck. Obviously the need for airway intervention has to be decided on the merits of individual cases but it is not invariably required. In the sponta-

neous bleeds, including the two cases described here, the clinical picture has been relatively mild and self-limiting with no significant mediastinal compression. No surgical intervention was needed in these cases.

Case 1 described here was taking aspirin (75 mg daily) and it is possible that this dose of aspirin may have contributed to the development of the retropharyngeal bleed. Case 2, however, had no such predisposing factors. Genovesi and Simmons (1975) describe a patient with this condition who was taking aspirin, although the patient was also anticoagulated and suffering from polycythaemia rubra vera. The anticoagulation is most likely to be the primary cause in this case.

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References

- Capps, R. B. (1934) Multiple parathyroid tumours with massive mediastinal and subcutaneous haemorrhage. *American Journal of Medical Science* **188**: 800–805.
- Epstein, A. M., Klassen, D. P. (1960) Spontaneous superior mediastinal haemorrhage. *Journal Thoracic and Cardiovascular Surgery* **39**: 740–745.
- Field, J. R. (1965) Retropharyngeal haemorrhage with respiratory obstruction following arteriography. *Journal Neurosurgery* **22**: 610–611.
- Genovesi, M. G., Simmons, D. H. (1975) Airway obstruction due to spontaneous retropharyngeal haemorrhage. *Chest* **68**: 840–842.
- Hayes, H. (1964) Retropharyngeal haemorrhage. *Texas State Journal of Medicine* **60**: 904–905.
- Hennessy, T. P., Martinez, J. A. (1970) Spontaneous cervico-mediastinal haematoma. *Journal Irish Medical Association* **63**: 298.
- Irvine, G. H. (1984) Retropharyngeal haemorrhage. *British Journal of Surgery* **71**: 320–321.
- Logan, G. E. C., Doby, T. (1962) Retropharyngeal haematoma caused by vertebral fracture. *Journal Maine Medical Association* **53**: 114–115.
- Macik, B. G., Hohneker, J., Roberts, H. R., Griffin, A. M. (1989) Use of recombinant activated factor VIII for treatment of retropharyngeal haemorrhage in a haemophilic patient with a high titre inhibitor. *American Journal of Haematology* **32**: 234.
- Mackenzie, J. W., Jellicoe, J. (1986) Acute upper airway obstruction and spontaneous retropharyngeal haematoma in a patient with polycythaemia rubra vera. *Anaesthesia* **41**: 57–59.
- Miller, C. H. (1970) Retropharyngeal haematomas. *Minnesota Medicine* **53**: 887–888.
- O'Neill, J. V., Toomey, J. M., Synder, G. G. (1977) Third retropharyngeal haematoma secondary to minor blunt trauma in the elderly patient. *Journal of Otolaryngology* **6**: 43–46.
- Owens, D. E., Calcaterra, T. C., Aarstad, R. A. (1975) Retropharyngeal haematoma. A complication of therapy with anticoagulants. *Archives of Otolaryngology* **101**: 565–568.
- Reussi, C., Schiavi, J. E., Altman, R. (1969) Unusual complications in the course of anticoagulant therapy. *American Journal of Medicine* **46**: 460–463.
- Rosenbaum, L., Thurman, P., Krantz, S. B. (1979) Upper airway obstruction as a complication of oral anticoagulation therapy. *Archives of Internal Medicine* **139**: 1151–1153.
- Sandor, F., Cooke, R. T. (1964) Spontaneous cervico-mediastinal haematoma. *British Journal of Surgery* **51**: 682–686.
- Stein, H., Herschberg, S. (1970) Massive retropharyngeal haematoma, report of a case. *Journal American Osteopath Association* **70**: 260–262.
- Thatcher, J., George, D. (1987) Retropharyngeal haematoma as a cause of acute upper airway obstruction in rheumatoid arthritis. *Journal of Rheumatology* **14**: 1172–1173.
- Weaver, D. F., Young, D. J. (1964) Retropharyngeal haemorrhage from the carotid arteries. *Annals of Otolaryngology and Rhinology and Laryngology* **73**: 542–554.
- Wholey, M. H., Bruwer, A. J., Baker, H. L. Jr. (1958) The lateral roentgenogram of the neck. *Radiology* **71**: 350–356.

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