Gastric Carcinoma—A Rare Presentation

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Abstract Over the last 10 years there has been increasing evidence of a strong association between Idiopathic Deep vein thrombosis (IDVT) and occult malignancy. A review of world literature puts this new clinical entity as 4–25%10. This mandates screening all cases of IDVT for a hidden malignancy. We report a case of advanced gastric carcinoma presenting as upper limb DVT with pulmonary embolism.

Keywords Idiopathic deep vein thrombosis · pulmonary embolism · occult gastric

Introduction

Advanced gastric carcinoma usually presents with dyspeptic symptoms, outlet obstruction or features of metastasis. Although migrating superficial thrombophlebitis (Trousseau's Sign) and Deep vein thrombosis (DVT) have been described in gastric carcinoma, these are rare. DVT in gastric carcinoma is usually seen in lower limbs. Involvement of upper limb deep veins is a rare presentation. Upper limb DVT accounts for only 1%–4% [1] of all DVTs. Risk factor for upper limb DVTs include, central venous catheterization, DVTs related to efforts, Thoracic outlet syndrome, thrombophilia and malignancies. Pulmonary

Embolism complicates upper limb DVTs in 12%–36% of patients and may even be presenting manifestation of many cases [2, 3].

Case Report

A 28 year old male computer technician was referred to us with Duplex proven left upper limb Deep vein thrombosis (DVT) of 6 days duration. His complaints had started one week back as chest discomfort, breathing difficulty and haemoptysis. He was diagnosed at a local hospital as having left lobar pneumonia and was put on antibiotics. The next day he developed pain and swelling of the left upper limb, investigations revealed DVT of the left upper limb veins. Except for occasional attacks of heartburns, which was relieved with antacids, patient had no other significant complaints. He was a chronic smoker.

On Examination: left upper limb was swollen and tender, with dilated veins over the arm and pectoral region. There was reduced air entry and coarse crepitation over the left base of lung. Abdominal examination was not contributory. Investigations: Haemogram and peripheral smear were normal. Duplex scan showed DVT involving left Axillary, Subclavian and Brachiocephalic veins. No evidence of DVT in lower limb veins. Investigations for primary thrombophilia (factor V leiden and prothrombin mutation) were negative. D-DIMER - >2000 ng/ml (normal <200 ng/ml). Ultra sonogram of abdomen revealed thickened pylorus of stomach. Upper gastro intestinal endoscopy showed 2×1 cm. ulcer with everted margin in the antrum. Biopsy was reported as Poorly differentiated Adeno Carcinoma. Contrast enhanced CT (CECT) abdomen: Gastric Carcinoma infiltrating pancreas with perigastric

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Fig. 1 Acute pulmonary embolism. CECT chest showing thrombus in left pulmonary artery with right pleural effusion

and para-aortic lymph nodular enlargement. X-ray chest showed bilateral patchy opacities with left sided pleural effusion.

With a clinical suspicion of pulmonary embolism in mind, a CECT scan of the chest was ordered and was suggestive of acute pulmonary embolism (see Fig. 1). In view of clinical improvement with anticoagulation, sub-massive pulmonary embolism and bearing in mind the risk of bleed from the gastric malignancy; thrombolytic therapy for pulmonary embolism was deferred.

Patient was taken up for a palliative sub-total gastrectomy (see Fig. 2). Post-op period was uneventful and the patient is being maintained on oral anticoagulants.

Discussion

Upper limb deep vein thrombosis (UEDVT) has recently been recognized as being a more common and less benign disease than previously reported. It accounts for approximately 1%–4% of all DVTs [1]. It usually arises in the presence of recognizable risk factors. In a French retrospective series [4] of 49 patients with UEDVT, 32.7% were associated with malignancy, 22.4% with venous catheters, 22.5% with effort related or thoracic outlet syndrome and 8.2% with thrombophilic state. In yet another retrospective analysis of 90 patients from Dayton, Ohio [5], the most common underlying conditions were Central venous catheters (72%), infection (28%), Extrathoracic malignancy (22%), Thoracic malignancy (21%), Renal failure (21%) and previous lower extremity DVT (18%). Recent studies have shown that complications following UEDVT occurs

frequently. These include pulmonary embolism (8.36%/12.2%), post-thrombotic sequele (up to 50%/36.7%) and recurrent thrombosis (3.15%/2.2%) [5, 6].

A growing body of evidence has demonstrated a strong association between cancer and venous thrombo-embolism. Numerous studies have addressed this issue and post-mortem studies have demonstrated a markedly increased incidence in thromboembolic disease in patients who died of malignancy, particularly those with mucinous carcinomas of the pancreas, lungs and gastrointestinal tract (GIT) [7].

Pathogenetic mechanisms like Hypercoagulability due to tumor cell activation, vessel wall injury and stasis for the development of thrombotic disorders in patients with malignancy were proposed by Virchow more than a century ago. Tissue factor procoagulant activity has been identified in malignancies like acute leukemia and solid tumor of ovary, stomach and kidney. The sialic acid moiety expressed by tumor cells of mucin secreting adenocarcinomas can cause non-enzymatic activation of Factor X [8]. Consequently Adenocarcinomas of the pancreas, GIT, lungs and ovaries are often associated with venous thrombus. Cancer cells can injure endothelium by direct vascular invasion resulting in an onset of a pro-thrombotic state [7].

There are several studies including one in 108 patients, with gastric carcinoma, where DVT of lower limbs was established in 37% [9] of cases. However literature correlating UEDVT and carcinoma stomach is lacking.

We strongly recommend a detailed work up of all cases of DVT with history, physical examination, laboratory tests including peripheral smear and tests to rule out primary thrombophilic state. An X-ray chest and abdominal ultrasound should also be included to rule out an occult malignancy. A per rectal examination, pelvic examination and Gynecological evaluation in women should also be done.

Fig. 2 Gastrectomy specimen showing the ulcerated malignancy at pylorus

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