ORIGINAL RESEARCH PAPER
Volume-9 | Issue-1 | January-2020 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

EVALUATION OF PATIENT WITH HEMOPTYSIS

Clinical Research

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ABSTRACT

Hemoptysis is a common and potentially life threatening complaint it is a important and alarming symptom and often indicates a serious disease (coughing of blood from glottis).Hemoptysis is the expectoration of blood coming from tracheobronchial tree (or) pulmonary parenchyma. The major causes include bronchitis, primary (or) metastatic cancer, autoimmune disorders, pulmonary infection and cardiac etiologies.Diagniostic evaluation frequently involves in computed tomography (CT) of chest and invasive procedure such as bronchoscopy to indentify severe complications. The lung cancer, bronchiectosis, bronchitis and pneumonia are the leading cause of hemoptysis in the cohort studies. Moderate to evaluate hemoptysis while bronchitis and lung cancer are commonly assessed with milder degrees of bleeding. The mortality rate patients with mild to moderate of hemoptysis was low at(2.5% and 6% respectively).the mortality rate is high in massive hemoptysis(heavy) patient is (38%).the tuberculosis is reported as a important cause of hemoptysis. The high prevalence of hemoptysis is seen in Africa, inner city of new York and tigerberg (south African) countries. It may be massive (more than 600 ml in 24 hrs) which can be dangerous to the life. Pulmonary tuberculosis remains number one cause of hemoptysis in developing countries. CT scan chest and bronchoscopy can give most of information in the patient. The endobronchial technique like ice cold saline lavage,balloon tamponade and bronchial artery.Embolization have been devised to temporarily to control hemoptysis. Newer technique of physiological lung exclusion has given more information.

KEYWORDS

CT scan of chest, Bronchoscopy, Physiological Exclusion, Hemoptysis.

INTRODUCTION

Hemoptysis is the expectoration of blood originating from the tracheobronchial tree (or) pulmonary parenchyma. For centuries hemopytsis was regarded as path-gnomonic of tuberculosis. The splitting of pus follows the spitting of blood from the chest region. It is one important symptom which brings the patient to doctor and quickly the process occur before diagnosis of tuberculosis. After completion of this treatment of disease it may be able to be streak. Massive hemoptysis can be leads to asphyxia, cardiac arrest and sudden death of the patient. it can occur in any group of age but it common in a age of 20-40 years. it can seen in more in males than in females (3:1).hemoptysis (or) expectoration of blood can range from blood streaking of sputum to the presence of gross blood in any accompanying sputum. Hemoptysis has a broad differential but the cause can be determined in major patients. One must carefully examine cardio respiratory system besides GI tract for final assessment of a case (disease).the terms of absolute frequency, neoplasm and bronchectasis which cause mild bleeding in the majority of the cases, were also main cause of moderate to severe hemoptysis.bronchiectosis is leading cause of severe hemoptysis in recent cohort studies. Hemoptysis is a symptom that might affect everyone on the United States incidence of tuberculosis in patients with massive hemoptysis is 7% while in 85% in South Africa country.

EPIDEOMOLOGY

Massive hemoptysis is a term used to describe a large amount of expectorated blood (or) rapid rate of bleeding is associated with a serious risk of mortality. Despite differences in the criteria used to define massive hemoptysis and risk of death.epideomology of massive hemoptysis is that there is no universal accepted definition of above. Although hemoptysis is a more common clinical finding reportedly responsible of outpatient pulmonary clinic visits.11% of admissions to hospital pulmonary service and 38% of patients referred to a thoracic surgery, massive hemoptysis is a relatively rare (3% of population effects).massive hemoptysis in cystic fibrosis is reported to have an annual incidence.tuberculosis, bronchiectosis, lung abscesses and myetomas have been consistently reported as common cause of massive hemoptysis.

ETIOLOGY

The common causes of hemoptysis are

1. Bronchiectasis
2. Bronchogenic carcinoma
3. Chest trauma lung (or) airways injury
4. Necrotizing pneumonia
5. Aspergiloma
6. Iatrogenic- a) complications of pulmonary artery catheterization in ICU

b) bronchoscopy- brush endobronchial

7. Cardiac disorders mitral stenosis
8. Cryptogenic (or) idiopathic massive hemoptysis
9. Immunological diseases (Eg; SLE, Polyarteritis nodosa, wegners granulomatosis)
10. Pulmonary tuberculosis-late (or) active sequallae.

CASE DESCRIPTION

Initial Evaluation

A 65 years female patient is admitted in hospital with chief complaints of Cough in blood (sputum), chest pain on right side, fever and general weakness of body.

History of patient:

Surgery: Hysterectomy at 45 years back
Chest pain on left side and not radiating to back.

Social history: Burning micturation, alcohol-occasional, tobacco chewing-stopped 10 years back.

Family history: History of pulmonary tuberculosis to her brother last 5 years back.

Clinical presentation:

Abnormal	Normal
1.Temperature: 94 F 2.CVS: S1 S2+ 3.Respiratory: Crypts+ in right side 4.Heart rate:86 b/min 5.Blood pressure:110/60 mm/hg 6.Respiratory rate:24b/p/min	1.Temperature: 98.6F 2.CVS: - 3.Respiratory: - 4.Heart rate: 60 to 100 b/min 5.Blood pressure: 120/80 mm/hg 6.Respiratory rate:12 to 25 b/p/min

Abnormal		Normal
1.RBC-3.84 /MCL 2.WBC-6,300 /MCL 3.Neutrophills-4.86/mm3 4.Monocytes-0.27/% 5.Esinophills-0.03/mm3 6.Basophills-0.02/mm3 7.Mcv-91.7/FL 8.Mch-28/p/cell 9.Mchc-30.7 G/DL	10.ESR-60 mm/hr Male-0-15mm/hr Female-0-20mm/hr 11.Hb-10.8G/DL	Rbc-4.7-6.1/mcl Wbc-4,500-11000/mcl N-1.5-8.1/mm3 M-2-8% E-0.06-60% B-0-3% Hb-13.5-17.5g/dl Mcv-80-100/FL Mch-27-33p/cell Mchc-34.4-35.5g/dl

DIAGNOSTIC TEST

Chest-X-Ray:

In a typical case of tuberculosis x-ray may show cavities in upper zones, infilterates, fibroatelectasis, homogenous opacities and destroyed lung. It may be unilateral in more than half the patients in rest it is bacterial X-ray may show other lesions like bronchogenic carcinoma & bronchiectasis

TREATMENT

Drugs	Dose	Route Of Administration	Frequency	Investigation
1.Ceftriaxone	1gm	IV	BID	ESR
2.Pantaprazole	40 mg	IV	OID	Chest-X-ray
3.Tranexamine acid	1 mg	-	SOS	Sputum
4.Paracetamol	500mg	Oral	SOS	
5.Azithromycin	500 mg	Oral	OID	
6.Deriphyllin	100 mg	Oral	BID	
7.Ambroxyl	5ml		TID	
8.Nebulization				

OUTCOME PROGRESS

It is a cause of non-resolving pneumonia with hymoptysis under evaluation is on symptomatic treatment Cartridge-based nucleic acid amplification test (CBNAAT) & Acid fast-bacilli (AFB) sputum negative, Contrast Enhanced computed tomography (CECT) suggested patient improved in treatment. Patient is stable at discharge time.

Medications:

1. Amoxyclove 625/mg/oral/bid
2. Pantoprazole 40/mg/oral/oid
3. Multivitamin/500/mg/oral/oid
4. Ambroxyl 5ml/oral/tid.

The physician advice for CECT chest test for review after 15 days.

DISCUSSION

The evaluation of hemoptysis is challenging because of its association with both diagnosis that cause serious morbidity and mortality rate. Patient medical history is clearly important factors to help determine the benefits of hemoptysis.more detailed evaluations of the lung parenchyma have prompted many experts to recommend computed tomography as a part of a many initial evaluation of a case hemoptysis.Although few experts recommend CT evaluation without concurrent bronchoscopy, younger patients are at a lower risk of malignancy and are therefore less likely to benefit routine invasive evaluation. CT is very effective in detecting neoplasms in the chest and can assist with both staging and bronchoscopy planning. The most common cause of hemoptysis in young adults are infections in chest and the impact of recent medical advances must also be factored in diagnostic bronchoscopy.the rate of hemoptysis associated with tuberculosis. Hemoptysis is a serious complication of pulmonary tuberculosis and we present a case of evaluation of hemoptyisis due to bronchoscopy in a patient with active pulmonary tuberculosis. Pulmonary tuberculosis is complicated with vascular lesions including bronchial arthritis and thrombosis. The pathogenesis of vascular lesions may be associated with a case of evaluation of hemoptysis presenting the massive hemoptysis due to pulmonary tuberculosis. The tuberculosis of patient previously reported the definitive diagnosis was made using “Multidetector computed tomography” (MDCT) she also had a past medical history of chest pain on left side not radiating to back. She had a past surgery of hysterectomy at age of 45 years, risk of the death for the patient in massive stage of hemoptysis. The hemoptysis of disease commonly seen in age group of adults & young ones. The hemoptysis is a curable disease but late in process of treatment, the endobronchial and bronchoscopy major common test for hemoptysis and also chest-X-ray, the mortality rate of hemoptysis is seen mostly in developed country than in developing countries.

CONCLUSION

The conclusion for hemoptysis is a more common disease (coughing of blood with sputum) in the tuberculosis patient; the hemoptyisis temporarily in most of the patients but re-bleeding is very common. Surgery is the definitive treatment and it has been proved that surgical rather than medical methods reduce mortality rated from massive hemoptysis, lung mobilization is very difficult and time consuming and marked blood lass occurs to patient, the treatment involves endobronchial measures the bronchoscopy test, tuberculosis is a commonest cause of disease for developing countries. On opening of the chest the lung was found to be very densely adherent to chest wall and apex of pleura, on attempted mobilization of lung there was marked blood loss, the blood bank could not supply more blood of that group in order to save the save the patient of dying from massive hemoptysis. Hemoptysis was controlled in all these patients immediately and long term follow up and there was no mortality and minimum morbidity in tuberculosis

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