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Test Your Knowledge

Respiratory Clinics
COUGH AND MELENA IN A 60-YEAR-OLD MAN

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CASE REPORT

A 60-year-old man came to the outpatient department with complaints of cough for 3 months. He was apparently well 3 months ago when he noticed a dry cough. It was initially quite occasional but since the past 1 month it has become more persistent and is present throughout the day. In the past 15 days, he has also noticed a chest pain which is bilateral and present in the interscapular and infrascapular regions. It is a dull pain which disturbs his sleep. On further inquiry, the patient said that he was a non-smoker and had worked as a clerk in an office, for 35 years. His appetite had reduced and he had lost about 15kg of weight in the past 4 months. There was no history of tuberculosis in the past nor did he have recent contact with a tuberculosis patient. He however added, that since the past 6 months he had noticed that his stools were dark-coloured and he now frequently suffered from constipation occasionally alternating with diarrhoea. Micturition was normal.

On examination, the patient was underweight. He was afebrile and his vital parameters were normal. His chest examination revealed only a few scattered rhonchi bilaterally over the chest. No bronchial breath sounds, rales or other adventitious sounds were heard. On abdominal examination, liver and spleen were not palpable and there was no guarding or rigidity. However, there was mild tenderness on palpation in the left paraumbilical region laterally. No abdominal masses were felt. Rest of the clinical examination was normal. His chest radiograph is shown in Figure 1.

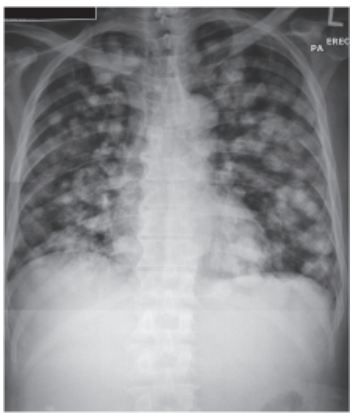

Figure 1

QUESTION:

1. Interpret this chest radiograph?
2. Based on his history and radiological findings, what is your provisional diagnosis?
3. What other investigations would you request for this patient?
4. Clinically, what is the likely aetiology of his lung pathology?
5. What is the cause of this patient's persistent chest pain?
6. What are the treatment options available?
7. What is the likely overall prognosis in this patient?

ANSWER:

1. Chest radiograph shows multiple rounded opacities present diffusely throughout both lung fields. Most of these opacities have well-defined borders with normal intervening lung parenchymal tissue, giving a typical "canon-ball" appearance.
2. The patient gives a significant history of cough, chest pain, weight loss, melena (tarry stools) and constipation alternating with diarrhoea. His chest radiograph shows multiple well-defined, rounded (canon-ball) opacities with normal intervening lung parenchyma. Hence, corelating his history and radiologic findings, it is highly likely that this is a case of metastatic lung carcinoma from a primary cancer in the colorectal region.[1,2]
3. Since the patient is likely to have metastatic lung carcinoma, and since he has gastrointestinal symptoms of black, tarry stools, and constipation alternating with diarrhea, the recommended first-line investigations would include:
   a) Colonoscopy
   b) Ultrasonography of the lungs and abdomen
   c) High resolution CT scan of the thorax and abdomen
   d) Bronchoscopy, if primary lesion is difficult to determine
   e) Tumor markers such as carcinoembryonic antigen (CEA)
   f) Barium enema, if colonoscopy not available

4. The likely aetiology is a primary adenocarcinoma[3] of the colon or the colorectal region, with haematogenous dissemination (metastasis) to the lungs.
5. The persistent nature of the chest pain which even disturbs the patients sleep is indicative of a malignant tumor process diffusely invading the chest wall.
6. The treatment options include:
   a) Surgery: only if the metastatic lesions are few, mediastinal lymph nodes are not involved and the primary tumour is resectable.
   b) Adjuvant chemotherapy: usually recommended within five weeks of surgery. However, it must be noted that chemotherapy is unsuccessful in shrinking or controlling the growth of metastatic tumors.
   c) Radiation therapy: it is primarily palliative and reduces the tumor burden thereby giving symptomatic relief to the patient.
   d) Palliative management for relief of breathlessness: tracheobronchial stenting may sometimes be required in cases of endobronchial narrowing due to endobronchial tumor infiltration or external compression of the airways by the tumor process.
   e) Pain relief: in case of chest wall infiltration and vertebral involvement, pain can sometimes be unbearable and can significantly reduce the quality of life in these patients. Morphine and other analgesics are hence recommended in such cases.
   f) Maintainence of adequate nutrition and hydration is vitally important in the overall management of these patients.
7. As per the Duke's classification (as modified from Zinkin),[4] the 5-year survival rate for colonic tumors with distant metastasis to the lungs, liver and bone, is at best 10%.

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