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"BOWEL GANGRENE-AN UNUSUAL PRESENTATION OF COVID 19"

Medicine

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KEYWORDS

The Covid 19 disease caused by novel corona virus was first reported in Wuhan, China in December 2019 with 5% patients having severe lung injury. Though this disease primilary presents as the lower respiratory tract infection, multiple digestive manifestation have been reported which are often overlooked.

The present case report describes the unusual progression of the Covid 19 disease from pneumonia to a procoagulant state leading to abdominal venous thrombosis and subsequent gut ischemia necessitating emergency laparotomy.

Coagulopathy in covid 19 is due to an imbalance in the coagulation hemostasis with increase in prothrombin time fibrinogen and D-dimer. Early recognition of abdominal symptoms, recognition of abdominal symptoms, diagnosis of pathology and timely surgical intervention may definitely improve outcome.

Case Description

A 54 year old male patient was admitted in ICU with complaints of breathlessness for 1 day associated with mild cough.He was examined and all relevant investigations were done.His Covid 19 antigen was sent on same day which was negative. The patient was conscious ,oriented with Sp02 91% on Venturi mask (40% FiO2),BP =130/70 mmHg,Pulse 94 bpm.

Treatment was started with supportive oxygen therapy, enoxaparin (first started in prophylactic dose and then in therapeutic dose), pantoprazole, vitamin C and zinc as per institutional protocol.

He showed symptomatic improvement with Sp02 of 94% .He was managed with broad spectrum antibiotics ,IV fluids,IV steroids, nebulization, oxygen support and other supportive care.

Chest X-ray was done which showed B/L non homogenous peripheral and basal lung parenchymal opacities ,probable for Covid 19 disease.RT PCR for Covid 19 was sent on next day which was negative.2D Echo was done which showed normal LV function with EF 55%.CT chest (HRCT)was done suggestive of Bilateral Patchy peripheral and peribronchovascular ground glassing ,consolidation associated subsegmental atelectasis involving all the segments of bilateral lungs.(lung opacities involving 5% to 25% volume of bilateral upper lobe and 50% to 75% right middle lobe and 75% volume of bilateral lower lobes).These findings are commonly reported imaging features of Covid 19 pneumonia (CORADS 6).CT Severity Score =18/25:Severe Disease.

Covid Antibody (IgG) test was done and was 19.90 suggestive of Post Covid State(post exposure).

On the Fourth day,he developed diffuse abdominal pain with distension.Contrast CT scan abdomen showed venous thrombosis with dilated jejunoileal loops and normal Enhancing bowel wall. Enoxaparin was administered with ecosprin and adequate analgesia was given.Symptomatic relief was noted.

However ,acute abdominal pain with distension were noted with faeculent vomiting the same day afternoon.Emergency exploratory Laporotomy was planned revealed feacopurulent collection of around 300 ml and gangrenous right sided colon with multiple perforations and few gangrenous patches in ileum with malrotation of gut.

Exploratory laporotomy with right hemicolectomy and ileostomy was done under General Anaesthesia .

Post operatively the patient was managed in ICU where the patient was gradually weaned off from the ventilator and extubated successfully on third postoperative day.

Initially the patient was kept nil per oral and gradually sips of water were allowed after assessing bowel movements.Slowly and gradually patient accepted orally well and was shifted out of ICU area in stable condition to be discharged subsequently the next day.

DISCUSSION

We report the case of abdominal venous thrombosis in a patient with Covid 19 pnemonia .Even after treatment of covid 19 disease with anticoagulant therapy ,gut ischemia can still be manifested by acute abdominal pain.Though Surgical exploration and bowel resection were successful ,the patient had to undergo a lot as sequelae of Covid 19 disease exposure.

Thrombosis in Severe Covid 19 may be due to inflammation ;endothelial injury by viral affinity for ACE 2 receptors in respiratory tract,heart,GI tract,and distal vasculature;activation of tissue factor pathway;excessive thrombin generation ;increased fibrin formation ;and polymerization with fibrinolysis shutdown(1)

Hypoxia in severe Covid 19 may stimulate thrombosis by increasing blood viscosity and a hypoxia inducible transcription factor dependent signaling pathway(2) The typical finding in Covid 19 coagulopathy is raised prothrombin time,fibrinogen and Ddimers with a modest decrease in platelet count with near normal activated partial thromboplastin time.(1)

Till now only few cases of abdominal venous thrombosis in Covid 19 patients post exposure as a sequelae are reported in the world. (4,5,6).Of these one patient with multiple comorbidities ,managed conservatively did not survive.In the other operated patients only two survived while one was still on ventilator support.

Surgical procedures performed in some were jejunal resection with laporostomy followed by double jejunostomy and abdominal wall closure 2 days later and in others side to side stapled anastomosis.

Microthrombi and inflammatory mediators were postulated to cause mesenteric ischemia .Though anticoagulation did improve disease evolution sudden abdominal pain was noted in all cases.CT scan was diagnostic in all cases.

Early treatment with heparin is recommended by most literature in hospitalized patients with Covid 19(1,4,5,6).Heparin has a anticoagulant ,anti inflammatory ,endothelial protective role in Covid 19.It can impact the microcirculatory dysfunction and possibly decrease organ damage .However the appropriate dose in Covid is still a matter of ongoing research(7).It is prudent to monitor prothrombin time ,platelet count and D –dimer concentrations in severe COVID- 19 infection.

Gut ischemia should be treated with early fluid resuscitation,use of broad spectrum antibiotics,heparin and early surgical intervention.The first 12 hours between onset of symptoms to treatment are crucial to

perform vascular surgery effectively without requiring intestinal resection for good outcome(8).

However either patients with Covid 19 present late or treatment is focused on respiratory symptoms.

In conclusion ,patients with Covid 19 disease, a holistic approach with evaluation of gastrointestinal symptoms alongwith respiratory symptoms should be done.In all patients with Covid 19 disease routine anticoagulation with heparin with regular monitoring of coagulation tests may prevent thrombotic complications.Gut ischemia should be suspected if the patient has abdominal distension or pain with increased inflammatory markers.Contrast enhanced CT scan should be done for diagnosis and may be repeated to see progression of disease.

Early intervention is life saving.

Emergency laporotomy may have a favourable outcome if done immediately after onset of abdominal pain and before onset of any new organ failure.

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