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CONNECTING THE DOTS…THE ART OF MEDICINE

Internal Medicine

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ABSTRACT

Internal Medicine offers tremendous scope for coming to a perfect clinical diagnosis by using one's logic, imagination and sound knowledge. Here we describe a complicated case brought to fruitful conclusion by methodically going through history, undertaking a sound physical examination and logically connecting the dots.

KEYWORDS

Leg Swelling, cough, fever, chest pain, icterus, Venous Thromboembolism, Pulmonary Embolism, B12 deficiency, Hyperhomocysteinemia.

INTRODUCTION:-

M/39, presented with fever-high grade with chills, cough without sputum, severe chest pain and breathlessness. He also had left lower limb pain with swelling. He had, in fact, been admitted to the same hospital, treated as pneumonia with IV antibiotics and discharged on oral antibiotics. There was no improvement and so he had sought another opinion in our unit.

ON EXAMINTION: -

Patient was febrile with oral temp:-100, BP:-150/86mmhg, PR-103bpm, mildly tachypnoeic, Spo2-94 % on room air, RBS-126, no pallor, cyanosis, clubbing. Icterus. There was a swelling in the left thigh with induration and mild tenderness. All major vessels were felt. The air entry right base was decreased with scattered crackles.

Clinical impression and logical interpretation:

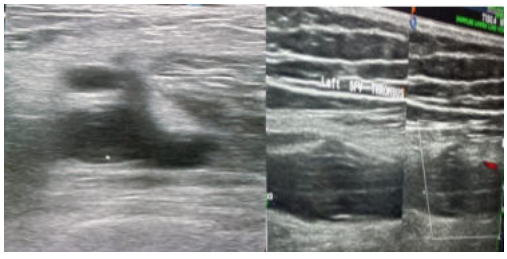
Fever, cough and chest pain and crackles pointed towards infective process-probably consolidation. The dyspnoea and loss of bronchial breathing warranted ruling out effusion. However, low SpO2 with above features definitely pointed towards pulmonary infarct/Embolism with source from left LL. Adding the icterus to this chain of thought asserted a B12/Folic acid deficiency contributing to embolism via hyperhomocysteinemia.

TABLE OF INVESTIGATIONS SENT:-

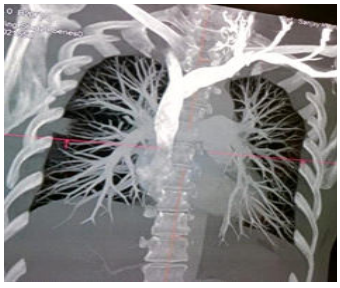
CBC- Hb-11.8, WBC-8.60(N-74/L-17/E-4/M-5/B-0), PlateletsS-339000, MCV-98.4, CRP- 78.7
Total Bilirubin- 2.37(D-0.75/ID-1.62), S.Creatinine-0.85, Vitamin B12-192, Vitamin D3- 11.3

Trunaat COVID-Negative. GeneXpert Tb-Not detected. Sputum-Gram stain-Pus cellsL-10-25/LPF

Gram negative Bacilli and Gram positive cocci in pairs seen, Serum Homocysteine-56.89, Protein C-70 %(normal-77-143), Protein S-77% (normal-70-130), Anti-thrombin 3-106 %(normal-80-120 2DECHO- WNL. Colour Doppler Left LL- Suggested acute thrombosis in left superficial femoral and popliteal veins.



THROMBOUS IN LEFT POPLITEAL VIENS
THROMBOUS IN LEFT FEMORAL VEINS



Pulmonary Embolism (initial presentation

Final Diagnosis

(1)Pulmonary embolism with source as left femoral and popliteal veins. (2) Underlying consolidation. (3) Protein C, Protein S and Antithrombin 3 deficiencies. (4) Severe Vit B12, D3 and Folic acid deficiencies.

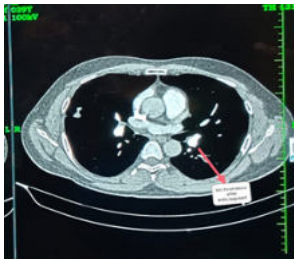
COURSE:-

Patient was started on inj. Enoxaparin 0.6 SC BD, Inj.piptaz (PIPERACILLIN AND TAZOBACTAM) 4.5GM TDS, Methylcobalamin Injections, Tab Folic acid and vitamin d3 capsules. Later he was converted to Apixaban tablet 5 mgs BD instead of Inj Enoxaparin.

Patient responded well to given medical management and hence was discharged.

FOLLOW UP:-

After a week, all his symptoms had disappeared. His icterus had gone away and he felt confident enough to resume his duties. His second Doppler yet showed clots but recanalization had started. The follow up CT Pulmonary angio (after 3 weeks) denoted complete resolution with no traces of previous emboli.



Follow up CT Plry Angio showing complete resolution.

DISCUSSION:-

Virchow triad consists of 1) Endothelial injury 2) Stasis or turbulence

of blood flow and 3) Blood hypercoagulability. "Low flow sites" are at highest risk for the development of venous thrombi1 with significant chances of embolism to the pulmonary tree2, 3. Inherent deficiencies of protein C, S and Anti thrombin3, especially when compounded with deficiencies of Vit B12 and Folic acid, worsen this propensity of thrombi formation. The megaloblastosis and maturation arrests of the RBC's that that accrues causes RBC destruction causing icterus (high INDIRECT bilirubin).

Pulmonary embolism can very well be lethal. Unfortunately it's not thought of as commonly as it should4. Ditto with symptomatic deep venous thrombosis.

Computed tomography angiography (CTA) is the preferred and gold standard of diagnosis of choice in pts suspected with PE[5,6].

LMW heparin is the initial treatment followed by oral anti coagulants7, 8,9. Thrombolytic therapy is considered if there is a massive embolism with infarct, severe hypoxia and CVS collapse.

Vit B12, D3 and Folic acid deficiencies are rampant in our country and cause myriad manifestations10. They must be thought of routinely.

CONCLUSION

The art of Medicine is sadly getting obsolete. Detailed history taking and meticulous physical examination is being sacrificed at the altar of machines and gadgets, with disastrous results. The above case demonstrates how to ensure a successful outcome, by going by the book and logically "connecting the dots".

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