A case of Invasive Pulmonary Aspergillosis occurring in a non-neutropenic patient at a Tertiary facility in North-West Nigeria

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Background

- Invasive Pulmonary Aspergillosis (IPA) is a severe disease
- It is mainly caused by *Aspergillus fumigatus*
- Commonly occurs among the immunocompromised, severely ill patients and those with chronic obstructive pulmonary disease
- Neutropenia is the most important risk factor for IPA
- We aimed to report IPA which occurred in a non-neutropenic patient with Chronic Myeloid Leukaemia (CML) to improve awareness and index of suspicion of IPA occurring in such patients

Methods

- We reviewed medical records of a patient with CML who developed IPA

Case report

- A 65 year old married male, farmer who was diagnosed to have CML 5 years ago presented with 3 week history of intermittent cough productive of scanty, mucoid sputum. No history of fever, difficulty in breathing, chest pain, haemoptysis, night sweats or weight loss
- He has had hypertension for 10 years, not diabetic, has never smoked cigarettes
- He was diagnosed to have TB adenitis 1 year ago and subsequently treated with Anti-TB regimen for 11 months
- His current symptoms developed 3 weeks after completing anti-TB therapy
- Clinical examination revealed elderly man, not ill looking, mildly dehydrated, not pale, anicteric acyanosed with axillary temperature 36.8^{o}C

Case report continued

- He had cervical and inguinal lymphadenopathy the largest measuring 2x3 cm and no pedal oedema
- His respiratory rate was 20 cycles/minute, chest symmetrical, trachea central, no chest wall tenderness. percussion notes resonant, breath sounds versicular, no crepitations or rhonki
- His pulse rate was 80 beats /minute, BP 120/80 mm Hg, heart sounds were SI and SII only
- His abdomen was full, soft, moved with respiration, no areas of tenderness with the liver 2cm and spleen 6 cm below the right and left costal margins respectively
- Musculoskeletal and Central Nervous System examinations were not contributory
- Investigations done at review were Complete blood count (CBC) and ESR. Results showed normochromic, normocytic RBC, absolute leukocytosis with a total count of 10,001, differential count of: Neutrophils 70%, Basophils 4%, Lymphocytes 4%, myeloblast 4%, promyelocyte 5%, myelocytes 4%, metamyelocytes 6% band forms 3% and Erythrocyte sedimentation rate of 80mm/hour
- An impression of Lower Respiratory Tract infection ? Cause, in a patient with CML in chromic phase was made
- Patient was treated with tabs Erythromycin 500mg 8 hourly and Augmentin 1gm 12hourly for 5 days
- He presented 4 days later with no improvement in symptoms CBC done at second presentation showed absolute neutrophilia with presence of band forms (left shift)
- Requested investigations were sputum MCS, fungal culture and AFB x3. He Continued tabs Erythromycin and was referred to TB Clinic
- Additional investigations requested at TB clinic were Mantoux and CXR then he was prescribed Benylin with Codein cough syrup for 2 weeks
- 11 days later symptoms still persisted, results of requested investigations were: Sputum MCS: normal throat flora; AFB: negative; Mantoux: 3mm negative; CXR: normal study.
- Gene Xpert was requested and asked to bring antihypertensive drugs at next visit to check for Angiotensin Converting Enzyme Inhibitors
- At his second review at TB clinic he was requested to do sputum cytology, Bronchoscopy, biopsy and CT scan.

Management

- He was continued on Benylin cough syrup for another 2 weeks
- 10 days later he presented with worsening symptoms. Results of Sputum fungal culture were retrieved and showed *Aspergillus species*, GeneXpert negative for TB
- Clinical microbiologist reviewed and requested repeat Sputum MCS to rule out Aspergillus contamination and repeat CXR since patient couldn't afford CT
- Repeat Sputum culture yielded *Aspergillus fumigatus* and *Enterobacter gergioviae*, CXR showed bilateral hilar fullness? Lymphadenopathy
- An impression of IPA in a patient with CML was made .He was commenced on tabs Itraconazole 200mg daily for 6 weeks and sample sent to another tertiary facility for Aspergillus galactomannan assay
- His symptoms markedly improved after 1 week on Itraconazole
- Results of galactomannan assay obtained 2 months later strongly positive so treatment continued for 8 months

Conclusion

- Diagnosis of IPA in this patient was delayed due to low index of suspicion
- We recommend IPA as differential diagnosis in patients with chronic cough

References

M Kousha, R Tadi, A O Soubani, Pulmonary Aspergillosis: A review. Eur Respir Rev 2011;20121,156-174

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