she had no history of malignancy or cardiac conditions, including valve abnormalities. She was dependent on TPN.

Physical examination showed decreased breath sounds in all lung fields without adventitious breath sounds. The patient was on repeated IV feedings. Percutaneous endoscopic gastrostomy requiring daily feedings.

In the setting of short gut syndrome secondary to her complicated Crohn’s disease course, she was dependent on TPN. She had no history of malignancy or cardiac conditions, including valve abnormalities.

CASE REPORT

A 42-year-old female with ileocolonic Crohn’s disease complicated by multiple bowel resections and Roux-en-Y bypass was evaluated inpatient for a two-week history of daily fevers and nonproductive cough. The patient was dependent on nutritional replacement therapy after failed percutaneous endoscopic gastrostomy requiring Mediport catheter placement for TPN feedings.

Physical examination showed decreased breath sounds in all lung fields without adventitious breath sounds. Labs significant for leukocytosis due to short gut syndrome by her complicated Crohn’s disease course, she was dependent on TPN. She had no history of malignancy or cardiac conditions, including valve abnormalities.

INVESTIGATIONS

• Labs significant for leukocytosis
• CT scan revealed a 2x2 cm cavitary consolidation in the lingula and a 1.9x1.7 cm cavitating lesion in the left upper lung lobe (Fig. 1)
• Mediport and bronchial wash cultures both grew Torulopsis glabrata.
• Fungal blood cultures were negative.

CONCLUSION

Aside from well-known risk factors, including central venous catheter placement and chronic antibiotic usage, the longer duration of both peripheral parenteral and total parenteral nutrition has been found to be the strongest risk factor for candidemia per previous studies.

• Mechanisms include loss of gut barrier and immune system dysregulation
• Antifungal prophylaxis in patients such as ours could have been beneficial
• Guidelines regarding antifungal prophylaxis in chronic TPN-dependent patients are warranted.

REFERENCES


Antifungal prophylaxis in patients such as ours could have been beneficial. Given the long-term use of parenteral nutrition, there has been a growing concern about the development of fungaemia and other fungal infections in TPN patients. The long-term use of TPN is associated with several risk factors for fungal infections, including the use of central venous catheters and the use of immunosuppressive medications.

DISCUSSION

TPN predisposes to fungal infections by varied mechanisms. In our patient, given the anatomical path of the catheter, septic fungal emboli from the Mediport is the most plausible mechanism of invasive candidiasis. The vulnerability of our patients to fungal infections is likely because of gut disruption in the setting of short gut syndrome and long-term TPN dependence. TPN-related infection risk occurs at both tissue and cellular levels. Loss of gut barrier function due to epithelial disruption and decreased IgA production is seen in chronic TPN users.

Some fungi, such as Candida species, can multiply in parenteral nutrition solutions in which even bacteria cannot grow. Prophylactic usage of antifungal medications in critically ill patients who require TPN is being studied, but data on the efficacy of therapy for those requiring long-term TPN is lacking.