

# Severe Pneumonia Secondary to Unmanaged Celiac Disease

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## Introduction

Celiac disease is a well-known autoimmune disorder that can occur in patients with a genetic predisposition causing an insensitivity towards gluten (Caio et al. 2019). Patients with Celiac disease experience an increased risk of developing hyposplenism and even splenic atrophy (Simons et al., 2018). This decrease in splenic function can lead to an increased chance of infection by encapsulated bacteria, specifically *Streptococcus pneumoniae* (Simons et al., 2018). Patients who are non-compliant with the associated dietary restrictions of Celiac disease may experience a higher mortality rate from “respiratory infections and sepsis” (Simons et al., 2018).

## Case Description

A 44-year-old male with a history of chronic malnutrition due to celiac disease and dietary noncompliance, pulmonary embolism, iron deficiency anemia, hypogammaglobulinemia, folic acid deficiency, and thrombocytopenic disorder presented with a cough, fever, weakness, abdominal pain, and chronic vomiting and diarrhea. The initial complete metabolic profile revealed a sodium of 131 mEq/L, blood urea nitrogen of 24 mg/dL, total protein of 2.8 g/dL, and albumin of 1.0 g/dL. Computed tomography (CT) of the chest with contrast revealed a cavitory lesion in the right upper lobe of approximately 3.3 cm that was diagnosed as pneumonia. By day 4 post-admission, the patient experienced worsening respiratory failure, was diagnosed with acute respiratory distress syndrome and acute hypoxemic hypercapnic respiratory failure, and was intubated. Symptoms continued to worsen until the patient was pronounced dead on day 9 post-admission.

## Vitals and Labs

	BP	HR	RR	T	Pulse Ox	WBC	Hb	Plt
Admission	75/55	131	25	100.7	96%	8.9	11.5	249
Day 8 Post-Admission	69/53	131	32	100.3	98%	37.1	6.6	33

Table 1: Patient’s vital signs and lab values at the time of admission and on day 8 post-admission.

## Imaging:

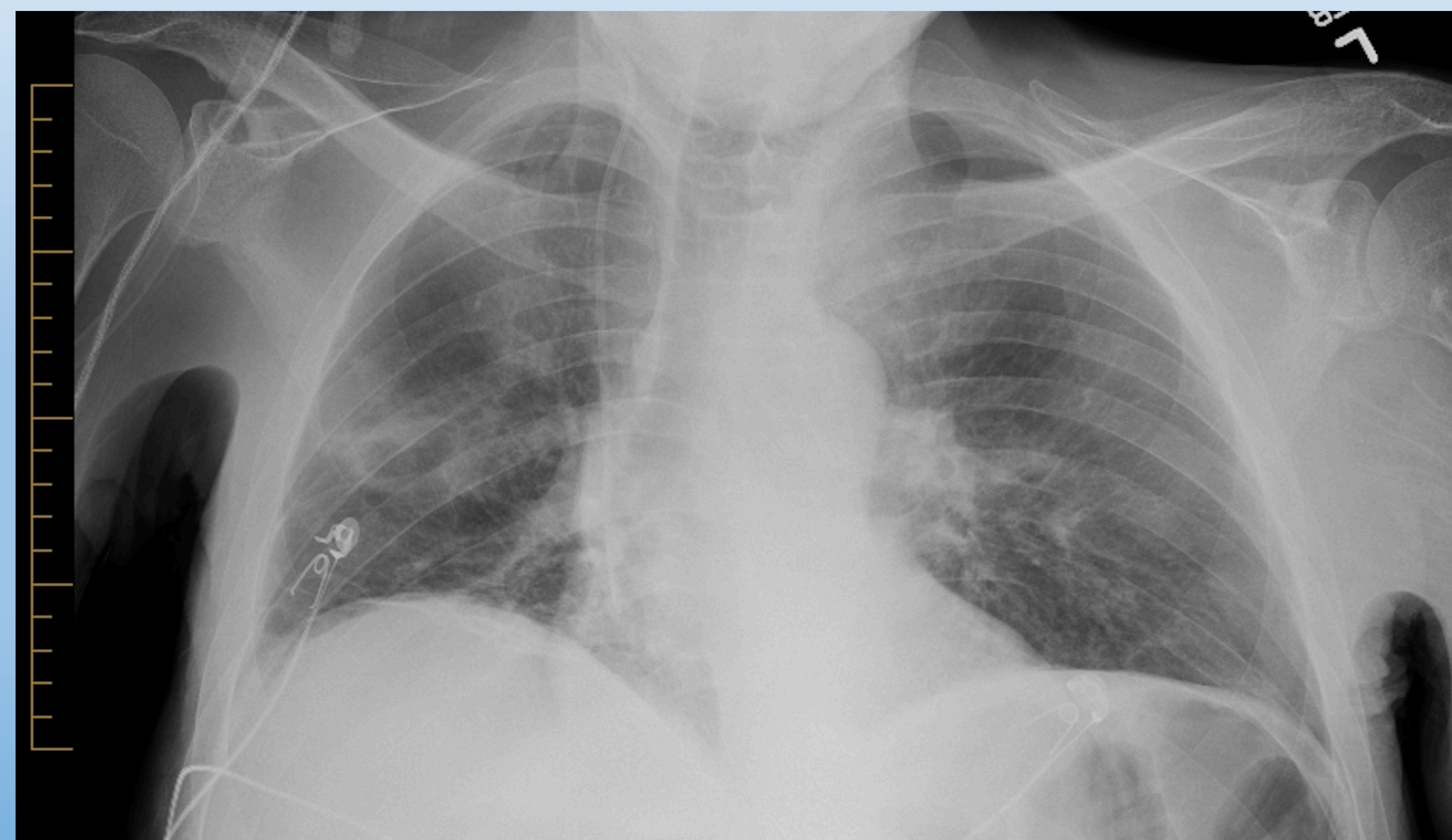


Figure 1: Patient’s CT Chest scan at the time of admission.

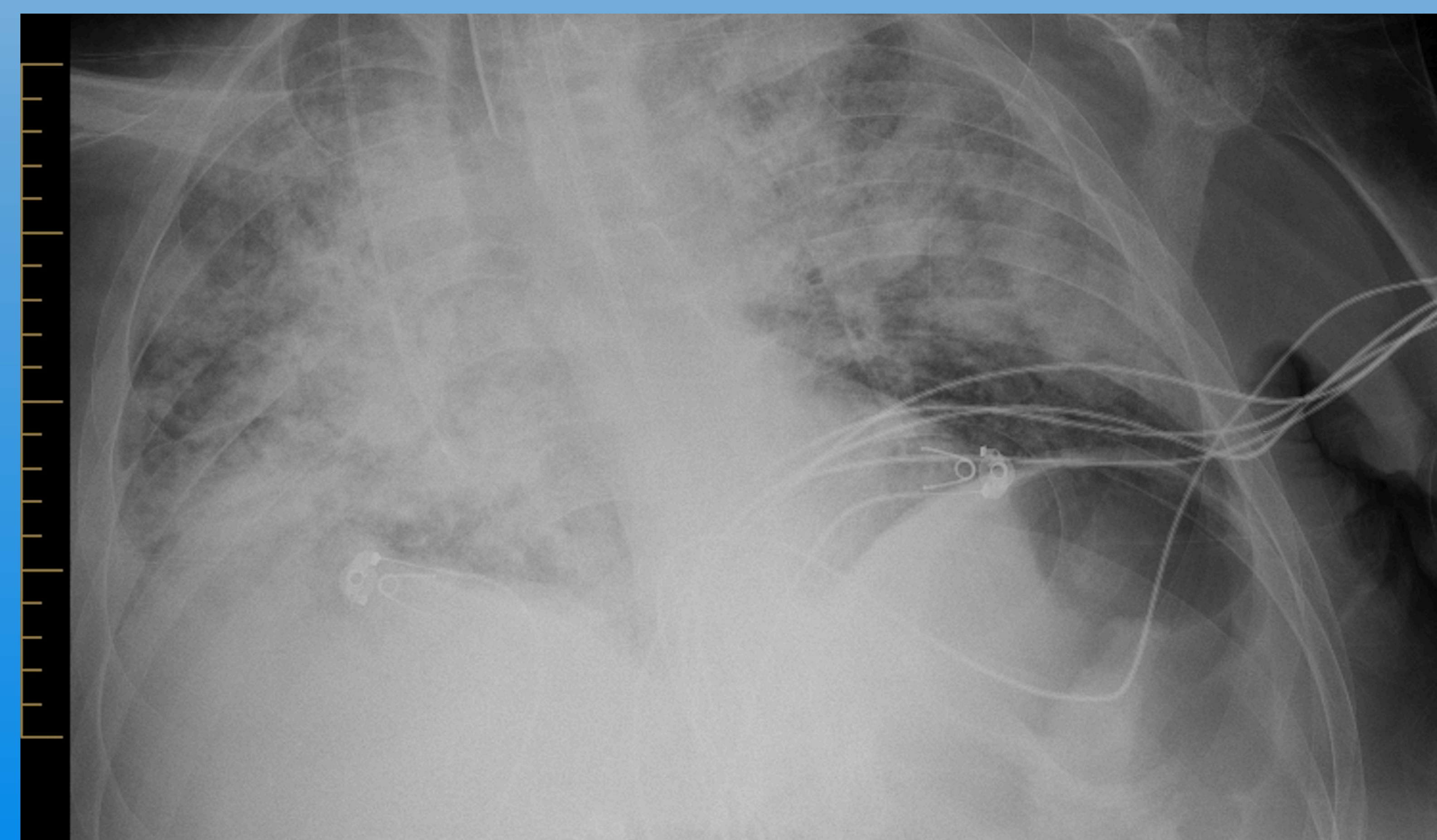


Figure 2: Patient’s CT Chest scan on day 8 post-admission.

## Discussion/Conclusion

This case demonstrates a potentially rare yet possible outcome for a common autoimmune disease. Without proper management, Celiac disease can lead to a stepwise decline toward severe respiratory impairment, as in this patient. Along with consistently enforcing standard treatment regulations, socioeconomic factors must also be taken into consideration by healthcare providers when managing the care of Celiac disease patients. By providing patient-centered care to those with Celiac disease, adverse outcomes such as this can be prevented.

## References

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