

## Does Autoimmune Disease act as a Hidden Trigger for Aggressive form of Gastroesophageal Malignancy in young Adult?

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### ABSTRACT

*Autoimmune disease and cancer both arise from dysfunctions of the immune system. Autoimmunity occurs when the body mistakenly attacks itself, launching an immune response against self-antigens that are not actually harmful. Cancer occurs when the body's mechanisms for controlling cell growth and death malfunction, preventing old cells from dying and allowing them to proliferate out of control. Despite the dramatic differences in their underlying mechanisms, for many years, researchers have observed that certain autoimmune diseases are positively or negatively associated with certain cancers. A young woman with Hashimoto's thyroiditis, behavioral disorder of repeated suicidal tendency, pancreatic carcinoma, angiolioma over left great toe, right sided oropharyngeal lymphoma and poorly differentiated gastro-oesophageal adenocarcinoma is discussed in present case study.*

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### INTRODUCTION

An autoimmune disease occurs when the body tissues are attacked by its own immune system. Patients with autoimmune diseases frequently have unusual antibodies circulating in their blood that target their own body tissues.<sup>1,2</sup> Examples of autoimmune diseases include systemic lupus erythematosus, Sjogren's syndrome, Hashimoto thyroiditis, rheumatoid arthritis, juvenile (type1) diabetes, polymyositis, scleroderma, Addison's disease, vitiligo, pernicious anaemia, glomerulo-

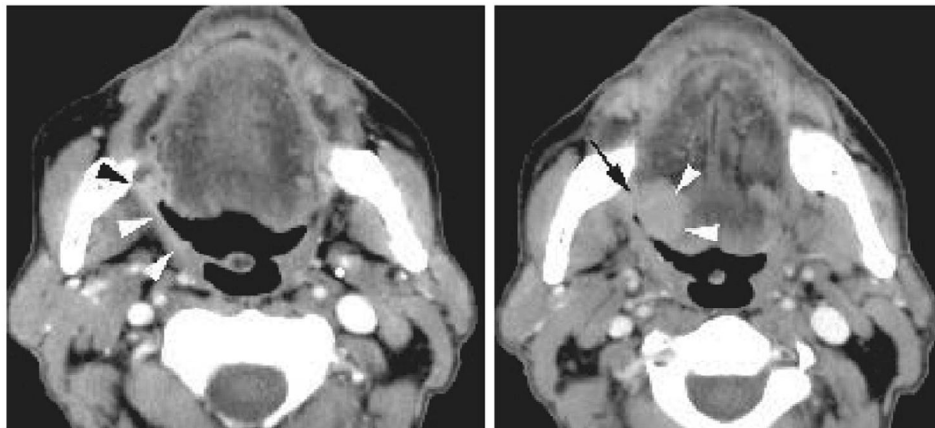
nephritis, and pulmonary fibrosis. Recent studies suggest that the pathogenesis that plays a vital role for developing autoimmune disease can also cause different types of malignancies of different sites.<sup>3-5</sup> As these are uncommon, case reports are the main source of information.

### The Case

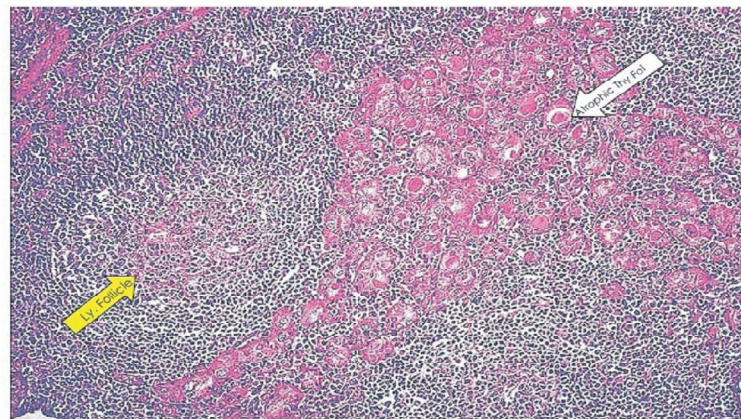
A young lady, 22 years of age, was presented to Department of Oncology, Khwaja Yunus Ali Medical College Hospital, Enayetpur, Sirajganj, Bangladesh as a diagnosed case of loco-regionally advanced pancreatic adenocarcinoma. Abdo-

minal severe pain, repeated vomiting, pronounce weakness and behavioral disorde was observed following 1<sup>st</sup> cycle Gemcitabine based chemotherapy. She was treated accordingly and went through detailed history taking where family history of consanguineous marriage in

between her parents was found followed by history of excision of right sided oropharyngeal mass (probable neurogenic tumour/lymphoma in CT scan finding) in 2006, histopathology of which revealed hyperplastic lymphoid follicle with prominent germinal center (Figure 1, 2).



**Figure 1: CT Scan of neck showing right sided oro-pharyngeal mass (Arrow).**



**Figure 2: Photomicrograph showing hyperplastic lymphoid follicle with prominent germinal center (Arrow).**

History of 3<sup>rd</sup> excision of a swelling over left great toe in march, 2015 (slowly and gradually increasing since 2010 but suddenly became larger within one month) histopathology revealing angiolipoma, 4<sup>th</sup> history of hemithyroidectomy in December, 2015, histopathology of which revealed Hashimoto’s thyroiditis and 5<sup>th</sup> history of suffering from behavioral disorder, repeated suicidal tendency which started one month after thyroid surgery. Thorough investigations including upper GI endoscopy, colonoscopy, CT scan whole abdomen was performed. Reports revealed gastro-oesophageal malignancy with invasion of surrounding structures including pancreas (Figure 3, 4) and clinically gross hypothyroidism. Endoscopic biopsy from lower oesophageal growth revealed poorly differentiated adenocarcinoma. Her hypothyroid state was gradually corrected and after that she was on chemotherapy with EOX regimen with good subjective and objective response.

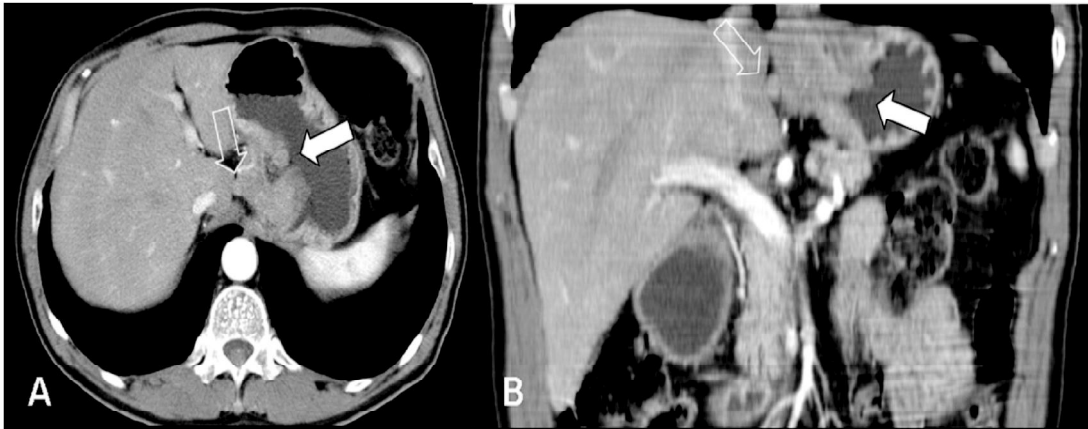


Figure 3: CT scan of whole abdomen showing esophageal growth (Arrow).

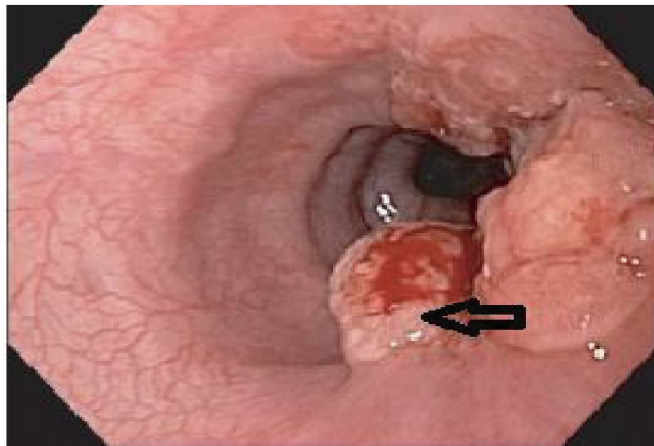


Figure 4: Endoscopy of upper GIT showing huge gastric antral growth (Arrow).

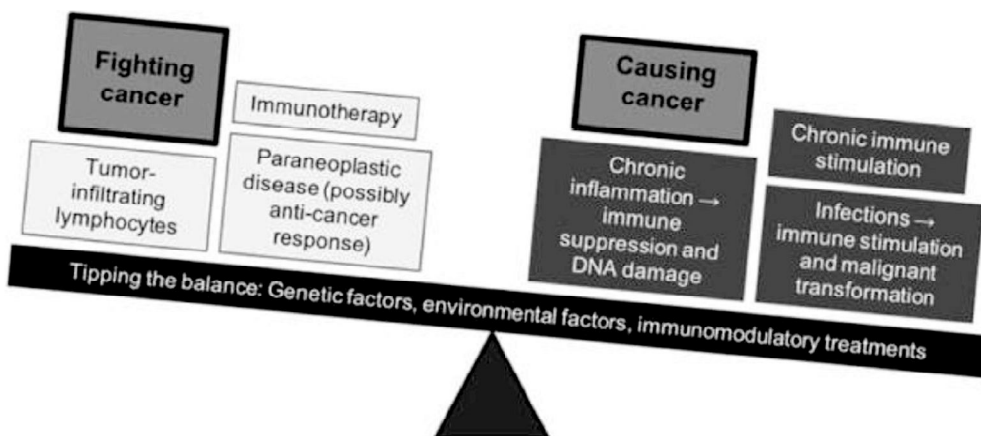


Figure 5: Relation in between autoimmunity and carcinogenesis (adopted from Anticancer Res. 2012; 32(4): 1120) (Arrow).

## DISCUSSION

There are more than 80 disorders that occur due to autoimmune action causes of which still not known clearly. Recent studies suggest that these autoimmune conditions can also play significant role in the pathogenesis of different malignancies. Similarities in the pathologies of autoimmune diseases with cancer lead to chronically overactive immune response, production of inflammatory cytokines and growth factors mediating overt cell proliferation and carcinogenesis.<sup>1</sup> Autoimmune metaplastic atrophic gastritis (AMAG) is an example of inherited autoimmune disease that attacks parietal cells, resulting in hypochlorhydria and decreased production of intrinsic factor. Consequences include atrophic gastritis, B12 malabsorption, and, frequently, pernicious anemia.<sup>2,3</sup> Risk of gastric adenocarcinoma increases 3-fold in this disease. Diagnosis is done by endoscopy.<sup>2</sup> This AMAG has a close association with autoimmune thyroiditis sometimes where chronic thyroiditis can activate autoimmunity against gastro oesophageal epithelium thus leading to aggressive form of gastro oesophageal malignancy.<sup>4,5</sup>

## CONCLUSION

Evidence demonstrates that autoimmune diseases are associated with the development of different forms of malignancies where gastrointestinal tract malignancies are uncommon. This relationship implies the importance of surveillance of patients who are treated as autoimmune disease, especially autoimmune thyroiditis for prevention of auto immunity related second malignancies like aggressive form of gastroesophageal malignancy.

**Conflict of interest:** The authors have no conflict of interest.

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