Splenic marginal zone lymphoma masquerading as cirrhotic hypersplenism for seven years

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Splenic marginal zone lymphoma (also known as splenic marginal zone B-cell lymphoma) is one of a family of indolent B-cell lymphomas that remain incompletely characterized. These lymphomas can be globally classified into mucosa-associated lymphatic tissue (MALT) lymphoma, also known as extranodal marginal zone lymphoma, and the non-mucosa-associated lymphatic tissue (non-MALT) marginal zone lymphomas, of which there are two: nodal marginal zone lymphoma (NMZL) and splenic marginal zone lymphoma (SMZL) (1,2). While MALT lymphoma has been well described at the molecular and clinical levels, NMZLs and SMZLs are poorly characterized at the molecular level, but remain clinically distinct. NMZL presents with disseminated nodal involvement, but SMZL is often isolated to the spleen and presents with massive splenomegaly (2,3). The author has previously reported a 39% incidence of primary splenic lymphoma in patients with idiopathic splenomegaly (3). SMZL is rare, and a high index of suspicion is necessary to make the diagnosis in a timely manner.

CASE PRESENTATION

A 48-year-old woman with a 15-year history of hepatitis B and C presented with left upper quadrant abdominal pain, nausea and dyspnea. The patient developed significant respiratory distress when she tried to lay flat. She was diagnosed with an enlarged spleen seven years earlier, which had been attributed to portal hypertension secondary to cirrhosis. Interestingly, she had never undergone a liver biopsy. She underwent a midline laparotomy 29 years earlier after being stabbed 14 times. She had no history of previous variceal bleeding.

On physical examination, her temperature was 37.3°C, with a pulse rate of 111 beats/min, with a large, palpable mass on the left side of her abdomen. Her stool was guaiac negative. Her initial hemoglobin level was 58 g/L and platelet count was 1.31×10^9/L. A computed tomography scan revealed a massively enlarged spleen occupying the entire left side of her abdomen (Figure 1).

This patient underwent a splenectomy performed through her previous midline laparotomy incision. The adhesions created a surgical challenge, and the spleen was scarred to the diaphragm. The splenic vein measured 22 mm in diameter. The tail of the pancreas was buried within the splenic hilum; consequently, a distal pancreatectomy was also performed and removed en bloc with the spleen (Figure 2). The excised spleen weighed 2870 g and measured 22 cm × 22 cm × 13 cm. The patient was discharged home on postoperative day 6. At her most recent follow-up, the patient was still in remission.

DISCUSSION

Marginal zone lymphomas originate from the marginal zone of B-cell follicles. The etiology may be associated with chronic infection or inflammation (4). Recently, a substantial amount of evidence has shown a strong correlation between infection with hepatitis C virus, and the development of SMZL (1,2,5-7). It is important for clinicians who treat patients with hepatitis C, who subsequently develop splenomegaly, to be suspicious for marginal zone lymphoma (5-7). The exact molecular pathogenesis between hepatitis C and SMZL remains unknown, but appears to be related to molecular alterations and signalling involving nuclear factor kappa B, which occurs in 36% to 58% of SMZLs (8,9). There are also documented case reports showing an association between SMZL and hepatitis B (10,11).
Because SMZL cells are rich in the B-lymphocyte surface antigen CD20, the anti-CD20 antibody drug, rituximab, has shown promise in treating the disease. Although spread to the bone marrow and recurrence is common, the disease is often clinically isolated to the spleen, and patients may remain in remission for a prolonged period with splenectomy alone (3,12). Comparative studies investigating splenectomy versus rituximab have shown complete remission achieved after splenectomy in 90% to 100% of cases, and after rituximab in 54% to 88% (12-15). Chemotherapy is not benign, and a phase II trial combining fludarabine and rituximab to treat marginal zone lymphoma reported a 15% mortality rate secondary to toxicity (15). Thus, current trends would favour splenectomy followed by rituximab therapy to sustain a complete remission, especially if the tissue is strongly CD20 positive (12). There is limited evidence that patients with hepatitis C and SMZL may go into remission with aggressive treatment of the virus using interferon-alpha and ribavirin (16,17). This can be considered within the therapeutic algorithm, but its exact role has not been currently defined.

All patients should undergo a bone marrow biopsy to accurately stage the disease because most patients will exhibit the characteristic intrasinusoidal infiltration pattern within the bone marrow (18).

REFERENCES