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Low Grade Lymphoproliferative Disorder And Small Lymphocytic Lymphoma Well Responded With Rituximab Maintenance Dose-Excellent Response To Treatment.

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Abstract:

Small lymphocytic lymphoma (SLL) is a slow-growing non-Hodgkin lymphoma that affects B cells. SLL differs from CLL by the location of the blood malignancy. CLL contains malignant B lymphocytes in the circulation, similar to leukemia, whereas SLL has cancerous B lymphocytes in lymph nodes, spleen, and tonsils, similar to lymphoma.SLL and CLL differ in terms of where the blood malignancy is situated. CLL contains the majority of malignant B lymphocytes in the bloodstream (similar to leukemia), whereas SLL has the majority of cancerous B lymphocytes in lymph nodes and lymphoid tissue such as the spleen and tonsils (similar to lymphoma). We present case of 75 years old male with SLL and treated with maintenance dose of Rituximab for 3 years with thriving outcomes.

Keywords: Small Lymphotic lymphoma, Rituximab, Non Hodgkin lymphoma, B cells

Introduction:

Small lymphocytic lymphoma is a slow-growing lymphatic cancer that affects B lymphocytes, which are specialized white blood cells that create antibodies to assist the body fight infection. Cancerous B cells are less effective at fighting infection than healthy B lymphocytes, and they can eventually crowd out their healthy counterparts. This makes a person with small lymphocytic lymphoma more likely to have major health issues. [1]

This type of malignancy, also known as SLL lymphoma or well-differentiated lymphocytic lymphoma, affects the same cells as chronic lymphocytic leukemia; the only difference is where those cells are placed.[2] The malignant B cells in SLL lymphoma are primarily located in the diseased person's lymph nodes and lymphoid tissues, including the spleen. When a person has chronic lymphocytic leukemia, the malignant B cells are concentrated in the circulation and bone marrow. In 2016, the World Health Organization identified these two tumors as fundamentally the same disease. [3]

Case Study:

A 75 years old male patient with confirmed diagnosis of low-grade lymphoproliferative disorder and small lymphocytic lymphoma (SLL), diagnosed 4 years ago with reported comorbidities of Hypertension and Type II DM was treated with bendamustine-rituximab (6 cycles) by July 2021, the medications included Psyllium amlodipine 5 mg, metformin 500 mg once daily, docusate 2 tablets and, senokot 1 tablet. After completion of 6th cycle the patient was prescribed ritixumab for maintenance of CLL. All radiological investigations were reported in favor of successful treatment, There is a 0.4 cm calculus in the

mid to lower pole the right kidney. No focal hepatic or splenic lesions. The gallbladder contains a few tiny layering calcific gallstones and some minimal sludge within. The biliary tree and pancreas are normal in appearance. There is a 2.1 x 1.3 cm nodule arising from the medial limb of the right adrenal and a 1.7 x 1.4 cm hypodense nodule arising from the lateral limb of the left adrenal, both of which demonstrate attenuation values consistent with adenomas. The gastrointestinal tract is grossly normal in appearance. No enlarged abdominal or pelvic lymph nodes. The abdominal aorta is normal in caliber with scattered calcifications. No free air or fluid. No acute osseous findings. However patient reported UTI after completion of treatment and treated accordingly.

Labs:
Results from last 3 months

Lab	Units	24/07/24 1023	29/05/24 1231	22/05/24 0301
HEMOGLOBIN	g/L	117*	131	127
LEUKOCYTE	x10E9/L	4.9	5.1	5.0
PLATELETS	x10E9/L	250	312	262
ABSOLUTE NEUTROPHILS	x10e9/L	2.8	3.5	3.0
CREATININE	umol/L	52*	55*	44*
ALT	U/L	21	30*	--
ALK PHOS	U/L	59	60	--
LDH	U/L	131	141	--
CALCIUM	mmol/L	2.10*	2.27	2.22
ALBUMIN	g/L	34*	40	38

Assessment and Plan:
- Ct chest abdomen pelvis and head
- Follow up 3 weeks

Discussion:

Small lymphocytic lymphoma (SLL) patients typically experience adenopathy, yet their small B cells are similar to those found in CLL. The treatment for these disorders is palliative, yet the majority of patients experience a slow progression. Several cytotoxic drugs are active; moreover, increasing cytopenias and immunosuppression worsen myelosuppressive agent treatment. [4]
Although first-line therapy is effective, people with CLL/SLL often acquire resistance to subsequent chemotherapy. Although most CLL/SLL patients exhibit the CD20 surface antigen, initial results with rituximab therapy were poor.

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Rituximab was effective in less than 15% of individuals with refractory SLL when given at the recommended dose and timing. Patients with previously treated CLL showed modest response rates and short durations. The poorer response to rituximab in SLL patients compared to follicular lymphoma (13% vs. 60%) 1 was initially attributed to the lower density of CD20 antigen expression in CLL/SLL.[5,6]

We studied single-agent rituximab as first-line treatment for indolent non-Hodgkin's lymphoma. Rituximab is used as the first-line treatment for CLL/SLL. The experiment found that a single 4-week treatment of rituximab with normal dose resulted in a 51% response rate. Re-treatment courses have led to more responses, with a current response rate of 58% and 14 patients on maintenance medication. This trial found similar response rates to our prior findings in 24 patients who received first-line rituximab for SLL. The initial response rate was 46%, but climbed to 70% after completing maintenance rituximab. [7-8]

Although randomized trials are sparse, preliminary results with first-line and maintenance rituximab suggest its efficacy relative to other first-line CLL treatments. Fludarabine response rates and median PFS in first-line trials have varied from 63% to 80% and 20 to 33 months, respectively. [9]
This medicine is likely more effective as a first-line agent than rituximab, but has significantly higher toxicity. [10] However, rituximab appears to be more effective than chlorambucil (37% response rate, 14-month PFS). Additional trials are needed to evaluate the best placement of these medicines in sequential therapy for SLL/CLL patients.[11]

Conclusion:

Small lymphocytic lymphoma is a slow-growing lymphatic cancer that targets B lymphocytes, which are specialized white blood cells that produce antibodies to help the body fight infection. Cancerous B cells are less efficient in fighting infection than healthy B lymphocytes, and they may eventually outnumber their healthy counterparts. This increases the likelihood that a person with small lymphocytic lymphoma may experience serious health problems. According to our observations, maintenance dosage therapy with Rituximab has shown to be an effective choice for these individuals.

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