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Initial Consultation Report for Joy Williams

Date: 17/04/16
Patient: Joy Williams
Signalment: 9yr, Labrador, FS
Weight: 28.5kg

Diagnosis: Multicentric lymphoma

Summary of clinical history:

- Presented April 2016 with enlarged peripheral lymph nodes and a history of resolving diarrhoea.
    - In house haematology showed anemia (Hct 25.9%; reference range 37.3-61.7), neutropenia (0.61x10^9/L; reference range 2.95-11.64), monocytosis (1.19x10^9/L; reference range 0.15-1.12), eosinopenia 0.02 x10^9/L; reference range 0.06-1.23), thrombocytopenia (67K/uL; reference range 148-484).
    - In house biochemistry was unremarkable.
    - Biopsy of an enlarged lymph node was consistent with lymphoma.
    - Antibiotic therapy started.

- Other medical history included a period of PU/PD and hyposthenuria that spontaneously resolved (2015) and otitis externa that resolved with treatment (2014).

Interpretation of results:

- The clinical presentation and histopathology results are consistent with multicentric lymphoma.
- The tumour has been reported as large cell lymphoma and intermediate in grade. The treatment recommendations and prognostic information below reflect this.
- Immunophenotyping has not yet been performed.

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Further staging recommended:

- Immunophenotyping is recommended.
  - T cell lymphoma has a worse prognosis than B cell lymphoma and does not respond as well to a CHOP protocol. For that reason we often start with an alternative protocol (LOPP). Both protocols have been attached as separate documents.

- External haematology and blood smear examination.
  - There are multiple abnormalities on the in house haematology results that were not present on previous blood results.
  - Blood smear examination would be useful – I suspect the findings on the in house results will be confirmed and that there will be circulating lymphoma cells. Feel free to email me these and any other results when you have them if you would like any additional advice.

- Thoracic radiographs, abdominal ultrasound and bone marrow aspirate and biopsy are all, in theory, recommended. Practically it is a little more complicated as detailed below.
  - It is unlikely that the information gleaned from these results will change the treatment plan.
  - If there are financial limitations, or concerns regarding the impact on quality of life of further investigations, some owners will choose not to pursue full clinical staging.
  - The haematology results for Joy are highly suggestive of bone marrow involvement.
  - When bone marrow involvement is confirmed we can add cytarabine to chemotherapy protocols to try to improve response. Another option, however, is to add this drug if there is not an adequate response to the standard protocol.
  - Bone marrow involvement is a negative prognostic factor in some studies but, in my experience, the limited literature on this topic means that this rarely alters the owners' willingness to treat.
  - Having full staging information prior to treatment is very useful to assess whether the chemotherapy is effective (i.e. by repeating the staging during the protocol or at its completion), in practice this is not possible for every patient/pet owner.

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- I would suggest pursuing immunophenotyping and blood smear evaluation and discussing the pros and cons of the remaining clinical staging options with Joy's owners.

Treatment options and prognosis:

- Chemotherapy can be started while immunophenotyping results are pending.
- Perform external haematology and blood smear if possible prior to chemotherapy.
    - Joy's neutrophil count is very likely to be low based on her recent results.
    - We usually do not administer chemotherapy when neutrophils are <2x10^9/L. However, in cases where neutropenia is due to bone marrow involvement (as opposed to recent chemotherapy administration or severe infection), it is more complicated. In these cases we need to administer chemotherapy to reduce the tumour burden in the bone marrow and allow for neutrophil recovery.

- While the neutrophil count is <1x10^9/L I would recommend that Joy continues to receive broad spectrum antibiotics. She is at risk of sepsis, unfortunately, and should be monitored closely at home and brought to you if she shows any signs of illness (so that you can administer intravenous antibiotics and intravenous fluids).

- If neutropenia is confirmed on external blood results and smear analysis I would suggest you administer L-asparaginase if you have access to this drug. The benefit of L-asparaginase is that it is not myelosuppressive and so does not induce neutropenia.
    - L-asparaginase is administered at a dose of 400iu/kg IM or SQ.
    - L-asparaginase is an expensive drug. For Joy the total dose will work out at around 11 000iu. I would reduce the dose to the nearest vial size which is likely to be 10,000iu vial and give that as the total dose. In my experience the drug is effective at a lower dose than that which is recommended.
    - 7 days after L-asparaginase start vincristine as detailed in the CHOP protocol below (or LOPP if it is T cell).

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- If L-asparaginase is not an option then start with vincristine as detailed in the first week of both the CHOP and the LOPP protocols below. Ensure very close monitoring (and prophylactic antibiotic therapy) until neutropenia is resolved.

- The prognosis for B cell lymphoma is approximately 10-12 months median survival time with 80-90% of dogs achieving remission.

- The prognosis for T cell lymphoma is 8-9 months median survival time with 60-90% of dogs achieving remission.

Other treatment options:

- There are other, less intense, chemotherapy options if the above treatment options are declined.
    - COP chemotherapy for B cell lymphoma is associated with survival times of approximately 8 months.
    - Lomustine chemotherapy (oral medication compounded to appropriate sized capsules) is probably more effective for T cell lymphoma but can also be used for B cell lymphoma. Survival times are 2-4 months.
    - Email me if you would like more information on these protocols and I will send them through.

- Prednisolone alone (1mg/kg PO q24hrs) is associated with survival times of 4-6 weeks.

Summary:

Thank you very much for requesting a consultation for Joy.

Chemotherapy is the treatment of choice for multicentric lymphoma. The protocol choice depends on the immunophenotype (as detailed above). I suspect Joy has bone marrow involvement which can make achieving a lengthy remission more challenging. It also may complicate treatment as it can be difficult to determine whether neutropenia is related to bone marrow involvement or chemotherapy agents. Keep in touch if you need any assistance. The early weeks of treatment may be challenging however, if she achieves complete remission, treatment should then be more straight-forward.

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If you have any questions please do not hesitate to contact me at ask@vetoncologist.com.

Yours Sincerely,

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