Reviewer's report

Title: Massive Tumor Lysis Syndrome and Multi-System Organ Failure Secondary to Replacement of the Liver with Metastatic Melanoma

Version: 1 Date: 27 November 2004

Reviewer: Krishnamachar Harish

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Response to other queries are required only if query1 is answered satisfactorily

1. This patient had advanced metastatic melanoma in the liver, the tumor burden (80% of liver) good enough to result in multi-organ failure. As a pre-terminal event, patient had hepatic, pulmonary and renal failure, as a part of multi-organ failure. The parameters of raised potassium, phosphorus, uric acid etc are also seen in renal failure. When multiple organ dysfunctions and resultant multiple biochemical alterations occur, is it correct to term a group of such biochemical abnormalities as "tumor lysis syndrome"? Please justify the usage of the term TLS in this situation and how could you differentiate it from the terminal biochemical abnormalities which occur in every advanced disease as terminal event? Even in the first such spontaneous case reported (Crittenden DR, Ackerman GL. Hyperuricemic acute renal failure in disseminated carcinoma. Arch Intern Med. 1977;137:97-99), he had demonstrated uric acid crystals in kidney on autopsy suggesting that TLS (not defined at that time) occurred prior to renal dysfunction. Check with the article Woo IS et al. Spontaneous tumor lysis syndrome in advanced gastric cancer. J Korean Med Sci 2001, 16: 115-8, where these biochemical abnormalities have occurred in isolation and not as a part of terminal event. (See also Feld J, Mehta H, Burkes RL. Acute spontaneous tumor lysis syndrome in adenocarcinoma of the lung: a case report. Am J Clin Oncol. 2000;23:491-493 and Sklarin NT; Markham M, Spontaneous recurrent tumor lysis syndrome in breast cancer. Am J Clin Oncol 1995 Feb;18(1):71-3). If biochemical assessments are done for every terminal disease during the 24 to 48 hrs preceding death and such values are found should tumor lysis syndrome be applied to all?

2. The case report is sketchy and does not provide adequate information especially regarding adequate evaluation of the case prior to surgery.

Clarify on the metastatic evaluation done at that time. Melanoma is known to have a potential to metastasize to liver. Was liver evaluated with biochemical tests?, CT scan or ultrasound? From further follow up of the case, it is unlikely that such large metastases would have appeared in 3 weeks time. They must have been existent at the time of surgery. If done, pre-surgical CT scan / ultrasound figures are desirable. If metastasis was present, what was the indication and purpose of surgery? If metastasis was absent, did 80% of liver get replaced by tumor in 3 weeks? Was metastasis detected elsewhere at second admission? Was the nodes N0 or N+ at presentation? How were they managed? A more detailed description of the case is desirable

3. What anesthesia was used for surgery? Was any hepato-toxic drugs used during or after surgery? Did that precipitate a liver failure in a metastatic liver?
4. CT scan figure of metastatic liver at second admission. It would be interesting if a rapid tumor growth has occurred in 3 weeks time. Alternatively, since autopsy has been performed, photo of the specimen is desirable.

5. «Our patient’s course was also remarkable for a profound TLS that was recalcitrant to aggressive life support measures including a six hour course of hemodialysis». With multi-organ failure and extensive liver disease, this statement is far fetched and needs to be modified or better deleted. It is understandable to treat TLS when it occurs in isolation. But in this case with such advanced disease what was the purpose of such aggressive therapy?

6. Have spontaneous tumor lysis syndrome been reported in solid tumor? How and why does such an event occur without any precipitating cause like therapy? Discuss on these issues.

7. Discussion and references should include other solid tumors (other than melanoma) which have had tumor lysis syndrome separating those that occurred after any therapy to those that occurred spontaneously.

8. More detailed case report and discussion to incorporate TLS, TLS in solid tumors, TLS which has occurred spontaneously etc.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

nil

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Discretionary Revisions (which the author can choose to ignore)

nil

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What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests