

Peer Review Report

Review Report on Role of albumin and prealbumin in assessing nutritional status and predicting increased risk of infectious complications during childhood cancer treatment

Original Research, Acta Biochim. Pol.

Reviewer: Joanna Stefanowicz

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EVALUATION

Q 1 Please summarize the main findings of the study.

Patients with cancer had lower prealbumin and albumin levels ($p < 0.001$), higher CRP levels ($p < 0.001$), and lower UAMA percentiles ($p = 0.0245$) compared with controls. Cancer treatment resulted in an increase in prealbumin and albumin levels ($p < 0.001$) and a reduction in CRP levels ($p < 0.001$), with no change in UAMA ($p = 1.000$).

In a univariable logistic regression model including prealbumin and albumin deficiency, as well as low UAMA percentile, albumin deficiency before treatment was shown to be a significant predictor of 3 or more infectious episodes.

Q 2 Please highlight the limitations and strengths.

1. The strengths of the study – a very interesting topic

2. The limitations:

–heterogeneity of the study group – different types of cancer together

–lack data about the infection severity, the duration of infection and their treatment including treatment of malnutrition

–low number of patients

Additional

–average ability to present statistical results – tables need corrections

Q 3 Please comment on the methods, results and data interpretation. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

Patients and Methods

–what kind of cancers did the patients have? how many with ALL, lymphomas, and with solid tumors – what types?

The primary diagnosis is important, treatment depends on a type of cancer, stage in solid tumors. Kind of treatment have influence on nutritional state of a patient.

–what kind of infections did the patients have depending on the severity, lengthtime, and treatment of the infection? How the patient' malnutrition was treated?

–"The risk of malnutrition with inflammation was defined as normal and high UAMA, albumin and/or prealbumin .

deficiency, and elevated CRP levels" – I don't understand it.

How did you assess UAMA percentiles? How did you assess UAMA percentiles? Based on which sources?

–The sentence – Controls were recruited from among should be changed. It is improper.

I don't find in Pubmed the article wrote by Milaniuk and Drabko in which is a clinical, demographic and social characteristic of study participants. It is necessary to include these data in this study.

Tables need corrections. The presentation of data needs improvement.

It is necessary to add limitations of the study.

Check List

Q 4 Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List)

Section "Patient and Methods"

- "Materials and Methods" – the title of this section should be "Patients and Methods"
- what kind of cancers did the patients have? how many with hematological malignancies and with solid tumors
- what types?

The primary diagnosis is important, treatment depends on a type of cancer, group stage in solid tumors and kind of treatment have influence on nutritional state of patients.

These data are partly in Section "Results" but in my opinion it will be better to see them in Section "Patients and Methods"

- the incidence of infectious complications during cancer treatment
- what kind of infections did the patients have depending on the degree of severity?
- If it is impossible to establish it should be in the limitations of the study.

- "The risk of malnutrition with inflammation was defined as normal and high UAMA, albumin and/or prealbumin .

deficiency, and elevated CRP levels" – I don't understand it. All conditions should be met?

How did you assess UAMA percentiles? Based on which sources?

- The sentence – "Controls were recruited from among the children of relatives and friends of the investigators." should be changed to volunteers.
- Assessment of infections – could you assess the severity of infections? It is very important. Sepsis cannot be compared to pharyngitis. If you are not able to assess the severity of infections it should be in the limitations of the study.

Section "Results"

Did the patients group and controls group differ depending on the age?

I don't find in Pubmed the article wrote by Milaniuk and Drabko in which is a clinical, demographic and social characteristic of study participants. It is necessary to include these data in this study.

Generally the results should be corresponded with the tables.

Section "Discussion"

It is necessary to add (at the end of this section) the limitations of the study. It is very important.

Tables

Table 1 needs corrections – columns should be in the order: patients before treatment, patients after treatment, controls, p value, the data should be presented as mean and SD or as median and Q1-Q3 or min-max depending on the statistical conditions. Did you compare patients after treatment with controls?

Table 2 and Table 3 – there should be only these data which are necessary, means with SD or medians with Q1-Q3 and min-max depending on the distribution of data and kind of the statistical test which was used.

References:

1. Milaniuk A., Drabko K (2024) – this article was not public and it is a problem to find these data.

Q 5 Is the English language of sufficient quality?

Yes.

Q 6 Is the quality of the figures and tables satisfactory?

Yes.

Q 7 Does the reference list cover the relevant literature adequately and in an unbiased manner?

Yes.

Q 8 Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)

Yes.

Q 9 Are the methods sufficiently documented to allow replication studies?

Yes.

Q 10 Are the data underlying the study available in either the article, supplement, or deposited in a repository? (Sequence/expression data, protein/molecule characterizations, annotations, and taxonomy data are required to be deposited in public repositories prior to publication)

Not Applicable.

Q 11 Does the study adhere to ethical standards including ethics committee approval and consent procedure?

Yes.

Q 12 Have standard biosecurity and institutional safety procedures been adhered to?

Yes.

QUALITY ASSESSMENT

Q 13 Originality



Q 14 Rigor



Q 15 Significance to the field



Q 16 Interest to general audience



Q 17 ➤ Quality of the writing

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Q 18 ➤ Overall quality of the study

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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