

Researchers address controversial kwashiorkor treatment

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The latest issue of *Paediatrics and International Child Health* sees leading experts in the field of oedematous malnutrition address the ongoing controversy surrounding the use of albumin for treatment of oedema in children with kwashiorkor in shock.

For many years, the essential cause of oedema in kwashiorkor was considered to be low oncotic pressure owing to low plasma albumin concentration. However, in 1980, this understanding was challenged by Mike Golden (University of Aberdeen), Alan Jackson (University of Southampton) and co-workers, and there has been controversy surrounding treatment of kwashiorkor ever since.

Now, in a ground-breaking new [article](#), Malcolm Coulthard (University of Newcastle), re-analyses Golden et al.'s data and demonstrates that there is a significant association between low plasma albumin concentration and oedema in kwashiorkor, and that loss of oedema is associated with a rise in albumin concentration. On the back of his findings, and based on his experience of managing crises in infants with congenital nephrotic syndrome, he proposes a trial of IV albumin for children with kwashiorkor who are in shock. Coulthard comments, "I am hopeful that this may provide a new way forward to treat this very vulnerable group of infants whose prognosis is still little better than it was decades ago."

Golden has responded with an exhaustive [review](#) of the literature on oedema and a re-evaluation of a wide variety of conditions manifesting

with oedema in children and adults, concluding that in the light of present knowledge each condition has enough anomalous characteristics such that Starling forces alone no longer explain the cause of oedema.

The third paper in the series, a [commentary](#) by Jackson, reviews both of these articles and traces the development of the management of kwashiorkor since the 1980s, particularly in relation to the role of dietary protein and systematic trials of volume and/or albumin replacement therapy. Both Golden and Jackson caution against the use of IV albumin in the management of kwashiorkor in general. Coulthard, in a Letter to the Editor, acknowledges the lack of evidence of the value of IV albumin and the potential dangers of its use, but argues that, given the lack of appropriate guidelines, a carefully controlled randomised trial of IV albumin is justified.

Together, these three papers address the controversy around the treatment of kwashiorkor and stimulate further discussion and research in the area. Brian Coulter, the journal's Editor-in-Chief, comments: "These articles provide an excellent update on the pathophysiology and management of oedematous malnutrition. Despite a WHO review of the management of severe malnutrition in children in 2013, treatment of those with intravascular depletion, particularly patients with kwashiorkor in shock, remains unsolved."

More information: "Oedema in kwashiorkor is caused by hypoalbuminaemia." DOI:

[dx.doi.org/10.1179/2046905514Y.0000000154](https://doi.org/10.1179/2046905514Y.0000000154)

"Nutritional and other types of oedema, albumin, complex carbohydrates and the interstitium – a response to Malcolm Coulthard's hypothesis:

Oedema in kwashiorkor is caused by hypo-albuminaemia." DOI:

[dx.doi.org/10.1179/2046905515Y.0000000010](https://doi.org/10.1179/2046905515Y.0000000010)

"Albumin in nephrotic syndrome and oedematous malnutrition." DOI:
[dx.doi.org/10.1179/2046904715Z.000000000249](https://doi.org/10.1179/2046904715Z.000000000249)

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