

Comment on Salva Shariq, et al. (*J Pak Med Assoc.* 2024; 74: 602)

The potential of methylene blue in treating septic shock: is it worth a shot?

Afnan Amjad, Faraz Mansoor

We read with interest the letter to the editor titled "The potential of methylene blue in treating septic shock: is it worth a shot?".¹ There is no doubt that septic shock is associated with a very high mortality and it is one of the most common indication for patients admitted to the medical intensive care units. It is important for the clinicians to understand that the most common causes of sepsis include Pneumonia, intra-abdominal sepsis, meningitis and urinary tract infection which require appropriate antibiotics as early as possible and fluid resuscitation, and vasopressors support as needed.

The authors have not presented any good evidence which could support the routine use of methylene blue in septic shock patients. The sample size in the study by Ismael et al is very small that included just 32 patients. Secondly, in the study by Luis-Silva F et al which is quoted in the letter is just a study protocol without mentioning any results, and this is a single center study. While the study by Miguel Ibarra-Estrada has shown the reduction of vasopressor time to 15 hours but mortality and days on mechanical ventilator were same in both the groups. In addition, this study was a

single center trial and they did not report the doses of the vasopressors used and the severity of the illness. Therefore, by looking at these studies it is very much clear that there is presently lack of strong evidence to support the widespread use of Methylene Blue in our clinical practice when it comes to treating patients with septic shock.

To sum up, we believe that methylene at present should only be used in a clinical trial setting before strong evidence is available. At present MB has shown promise only in case reports, observational studies and small randomized controlled trials. As the authors have suggested in their letter, more rigorous trials are required to confirm its efficacy in septic shock patients, in addition to determining its optimal timings, duration and safety profile. Therefore, we believe that its not worth a shot.

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References

1. Salva Shariq, Khawaja , A., & Khawaja, N. (2024). The potential of methylene blue in treating septic shock – is it worth a shot?. *Journal of the Pakistan Medical Association*, 74(4), 602. <https://doi.org/10.47391/JPMA.10609>.

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Anaesthesia Department, Shaukat Khanam Memorial Hospital, Peshawar.

Correspondence: Afnan Amjad. e-mail: afnanamjad27@yahoo.com

ORCID ID. 0009-0003-9776-2107