Vitamin K Deficiency Beyond Neonatal Period: Correspondence

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To the Editor,

We read with much interest the article by Adhikari et al., published in the recent issue of your journal¹ but at the same time would like to make the following comments, clarification to which would benefit the general readers of JNPS.

First: The authors mention that “Infants had received 5 mg daily doses of vitamin K for minimum of 5 days or till INR was normalized”. There are few evidence-based studies of how best to treat infants with Vitamin K deficiency bleeding (VKDB). The BNF (British National Formulary) for Children recommends a single intravenous dose of 250-300 μg/kg body weight². The dose range of 1 to 2 mg is found to be more than sufficient to fully correct vitamin K deficiency in infants aged up to 6 months. Higher doses offer no advantage in efficacy or speed of reversal of even a severe coagulopathy due to a nutritional vitamin K deficiency³.

Second: Three (18.7%) infants with VKDB related ICH (Intracranial hemorrhage) had received vitamin K injection at birth. This is very surprising as a recent systematic review [4] has demonstrated a 98% reduction (95% CI 90 to 100%) in the incidence of late VKDB following IM vitamin K prophylaxis. Though it is mentioned that “other” causes of ICH including liver disease were excluded in the studied children, this raises the suspicion whether secondary causes of vitamin K deficiency such as cystic fibrosis, α1-antitrypsin deficiency, etc were missed.

Reply from the authors: We thank Dr. Anirban Mandal and Dr. Puneet Kaur Sahi for giving us opportunity to give more incites regarding our paper¹.

Firstly: Earlier studies and case reports⁴ have mentioned the use of higher dose of parenteral vitamin K (5 mg/day). Higher doses 5-10 mg is used in older children and adults without dose related adverse events. Most infants had responded with 1 or 2 doses of vitamin K as described in the case series. Multiple doses were only used in the children with secondary Vitamin K deficiency. We agree that recent guideline recommend single dose intravenous dose of 250-300 μg/kg body weight or 1-2 mg in infants to correct vitamin K deficiency³.

Second: Possibility of secondary causes of vitamin K deficiency with chronic diarrhea such as cystic fibrosis, α1-antitrypsin deficiency, etc couldn’t be rule out. Besides the use of antibiotic use in preceding week and maternal vitamin K status was also not known. Retrospective

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study with small sample size could have contributed for the higher (18.7%) report of VKDB related ICH in the case series. There are studies indicating reports of ICH in infants who have received vitamin K. Large multicenter randomized controlled trial about vitamin K status in infants and VKDB is necessary in future.

References


