

This research aimed to study the difference in glass particle contamination from ampules with different intravenous administration methods commonly used in clinical practice” Joo et al (2016).

Abstract:

There have been many studies on glass particle contamination from glass ampules during the injection of glass ampules, but only the contamination from direct IV bolus injection has been measured. This research aimed to study the difference in glass particle contamination from ampules with different intravenous administration methods commonly used in clinical practice.

Four methods were studied: IV bolus injection directly after immediate aspiration, IV bolus injection directly after 2 min’ delayed aspiration, IV bolus injection directly after aspiration with a filter needle, and side shooting to an infusion set with an in-line filter. 45 ampules per method for a total of 180 ampules were used. The number and length of glass particles were measured using a slide scanner. Aspiration was performed without specifically using a slow aspiration method. The longest glass particle was observed in the immediate aspiration group. The side shooting group showed the lowest maximum number of glass particles per ampule. The side shooting group also showed the smallest number of glass particles, but it was statistically insignificant. Using a filter needle syringe and 2 min’ delayed aspiration, which are frequently recommended to minimize contamination, may not be as effective as commonly believed, unless combined with a slow and low pressure aspiration method. Using a side shooting to an infusion set with an in-line filter may minimize glass particle contamination from ampules even without a slow and low pressure aspiration method, but more evidence from a larger study is needed.

Full Text

Reference:

Joo, G.E., Sohng, K.Y. and Park, M.Y. (2016) The effect of different methods of intravenous injection on glass particle contamination from ampules. Springerplus 5:15. eCollection 2016. doi: 10.1186/s40064-015-1632-0.

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