Cochrane Database of Systematic Reviews - - Cochrane Review

Percutaneous lines for delivering intravenous antibiotics in people with cystic fibrosis

Code: CD008243 **Year:** 2010 **Date:** 2010 - updated: 22 SEP 2010 **Author:** Prayle Andrew P

Study design (if review, criteria of inclusion for studies)

Randomised studies comparing long intravenous lines with short intravenous lines or comparing different types of long intravenous lines.

List of included studies (2)

Lacy 1996; Williams 1988

Participants

People with CF of any age who have a course of IV antibiotics administered by a percutaneous device (excluding studies in which individuals have a totally subcutaneous indwelling IV access device e.g. a portacath). Cystic fibrosis was defined as (Rosenstein 1998): â€œOne or more characteristic phenotypic features â€¢ or a history of CF in a sibling â€¢ or a positive newborn screening test result AND an increased sweat chloride concentration by pilocarpine iontophoresis on two or more occasions â€¢ or identification of two CF mutations â€¢ or demonstration of abnormal nasal epithelial ion transportâ€•. Individuals of any age were included. However, given the differences between paediatric and adult practice, we planned to subgroup participants by age.

Interventions

Long IV line

Outcome measures

Completion of a course of antibiotics with a single long iv line; Complication necessitating removal of the line; Complications of the long line; Lifespan of the long iv line; Patient satisfaction

Main results

Two studies (67 participants) were included in the review. Based on the published reports, both studies had potential for bias in several domains. There is some evidence that long intravenous lines are superior to short intravenous lines. One study of 20 participants found that the lifespan of a long intravenous line is longer than that of a short intravenous line, and that participants preferred the long intravenous lines to short intravenous lines. A further study of 47 participants found no difference in lifespan, or participant preference when comparing two different long intravenous lines (the Hydrocath and Vygon EC). Neither study was powered to detect differences in serious complications of the devices.

Authors' conclusions

There is some evidence to support the use of long intravenous lines rather than short intravenous lines, in terms of lifespan of the line and patient satisfaction. There is no evidence to suggest that anyone type of long intravenous line is superior, and currently choice of line should be determined by operator and patient preference. There are numerous devices available which are used in cystic fibrosis. Further research is required to identify clinically important differences between these devices.

http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD008243.pub2/abstract

See also

Prayle AP, Hurley MN, Smyth AR. Percutaneous lines for delivering intravenous antibiotics in people with cystic fibrosis. Cochrane Database of Systematic Reviews 2010, Issue 7 Art. No.: CD008243. doi: 10.1002/14651858.CD008243.pub2

Keywords

Anti-Bacterial Agents; Bacterial Infections; Infection; Intravenous; percutaneous; pharmacological_intervention; Respiratory Tract Diseases; Respiratory Tract Infections; Exacerbation;