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Pharmacist's Letter
Hospital

Clear Up Confusion Around Midline IV Catheters

Hospital staff continue to question whether to treat midline IV catheters as peripheral or central lines...or somewhere in between.

Explain that midlines are still considered peripheral IV (PIV) lines...they don't reach the central vasculature (vena cava, etc).

But highlight that they're longer than typical PIVs (8 to 25 cm versus 2 to 6 cm)...and shorter than PICC lines (38 to 52 cm, etc).

Plus midline placement can be quicker and less invasive than central lines. For example, they're usually inserted into the crook of the elbow. Then ultrasound can be used to ensure the line tip ends near the armpit.

Emphasize that midline IVs have a lower failure rate than PIVs. This allows midlines to stay in longer...up to 30 days...whereas shorter PIVs typically only last up to about 4 days.

But keep in mind that midlines may still have more complications (thrombosis, infiltration, etc) compared to PICC lines.

Advocate having a hospital guideline for midline catheters to standardize patient eligibility, line care, etc.

For example, recommend placing a midline when patients are expected to need 5 or more days of IV meds (prolonged IV antibiotics, etc).

On the other hand, suggest against using them if patients have active or past blood clots...poor extremity blood flow...or end-stage kidney disease, since they need to protect possible dialysis IV sites.

Similarly, steer away from giving certain meds via midline IVs. The line's deeper location can hide phlebitis, extravasation, clots, etc.

For instance, advise against midline IVs for continuous vesicants, meds with extreme pH or osmolarity (over 900 mOsm/L, etc), or parenteral nutrition. And typically avoid infusing central line-specific strengths.

Check your hospital's policy about giving vasopressors via midlines...even if pressors are allowed through PIVs. Safety evidence is limited for midline pressors...and deep extravasations may go undetected.

Be aware that midlines can have 1 or 2 lumens to help with IV incompatibilities. But 2-lumen lines have a higher complication rate.

Expect midlines to require locking with normal saline (NS) or heparin after each use...or at least every 24 hours when unused.

Typically advise locking adult midline IVs with NS instead of heparin...NS has similar efficacy with fewer side effects.

But it may be reasonable to use NS or heparin in kids, since data aren't conclusive. Limit heparin lock strengths to 10 units/mL or less.

Continue to watch for possible extravasation with any IV line. Have our *Management of Non-Chemo Drug Extravasation* chart on hand for treatment tips if it occurs.

Key References:

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