Know Rules of Thumb to Manage Loop Diuretics

You'll see cases where you can **optimize oral loop diuretics (furosemide, etc) for volume overload or edema in heart failure**.

First, ensure that patients are on target doses of meds that improve heart failure outcomes...ACEIs or ARBs, beta-blockers, etc.

Keep in mind, loops only treat SYMPTOMS.

And evaluate other possible causes of fluid retention...such as NSAID use, a high-salt diet, or nonadherence.

Then suggest a stepwise approach to manage loops...but be aware, it can be more art than science. Expect doses to fluctuate.

Stick with furosemide. There's no good evidence other loops work better...despite better absorption. Plus furosemide costs under $5 per month...versus over $25 for bumetanide or over $60 for ethacrynic acid.

Recommend starting with 20 to 40 mg in the AM...and titrating every couple of days to the lowest dose that improves symptoms.

Advise increasing the dose BEFORE adding a second dose...since loops need to reach a "threshold" concentration to cause diuresis. Think of the mantra, "double the dose until the urine flows."

For example, suggest titrating to 80 mg in the AM. If that's not enough, advise adding 80 mg in the afternoon. Don't be surprised if patients with renal impairment need higher doses.

It's okay to try bumetanide if symptoms persist on max daily doses of furosemide...usually 240 mg, or up to 600 mg in kidney disease.

Explain oral furosemide 80 mg is roughly equal to bumetanide 2 mg. Save ethacrynic acid for those with a severe sulfa allergy...due to higher cost and risk of ototoxicity.

Advise starting an aldosterone antagonist (spironolactone, etc) if patients aren't already on one...especially for heart failure with reduced ejection fraction if eGFR is above 30 mL/min.

Then suggest adding a thiazide if symptoms persist. Any thiazide is okay, but go with metolazone if eGFR is below 30 mL/min.

Dispel the myth of dosing the thiazide 30 min before the loop. There's no evidence this works better than dosing at the same time.

Emphasize close monitoring of electrolytes and renal function.

Educate patients to check their weight daily...and to report worsening edema or shortness of breath.

Get more practical pearls and learn about causes of diuretic resistance in our chart, *Loop Diuretic Use in Heart Failure*.

Key References:

-Can J Cardiol 2017;33(11):1342-433
-Eur J Heart Fail 2019;21(2):137-55
-Circulation 2013;128(16):e240-e327
-Eur Heart J 2016;37(27):2129-200
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