

Gastric-Dilatation and Volvulus (GDV)

DRIP 3

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GASTRIC TROCHARIZATION

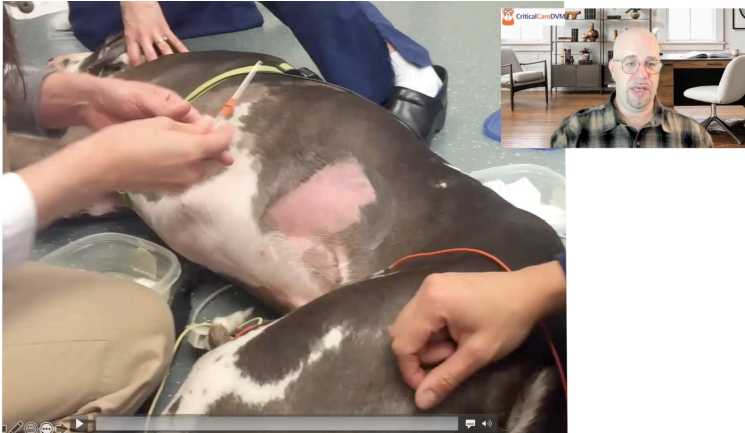


- Insertion of a large catheter directly into the stomach through the body wall
- Performed at most tympanic area of the abdomen
 - "Pinging"
 - Typically left-sided
- Aseptic preparation of area to be trocharized



Another way to achieve gastric decompression is through trocarization. That means you're going to insert a very large-bore, long needle or catheter right through the body wall directly into the stomach. Where do you insert the needle? At the most tympanic part of the abdomen.

You're going to ping like you're looking for a displaced abomasum-- a right or left displaced abomasum. Ping like your pinging a cow, and then the most tympanic point is usually on the left side of the patient.

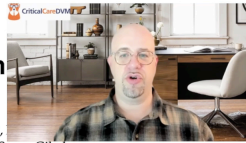


What you'll see here is a dog that came in through our surgical service. It bloated from the stress of hospitalization, and she collapsed pretty quickly. Here you see our surgeon getting ready to do a gastric decompression right where she dropped. We have a team at the cranial end, behind the surgeon catheterizing, and so we have the ability to do a little bit of everything. But I want you to hear the swish sound as air escapes, so I'm not going to talk during the video.



[no audio]

Evaluation of lidocaine treatment on frequency of cardiac arrhythmias, acute kidney injury, and hospitalization time in with gastric dilatation volvulus



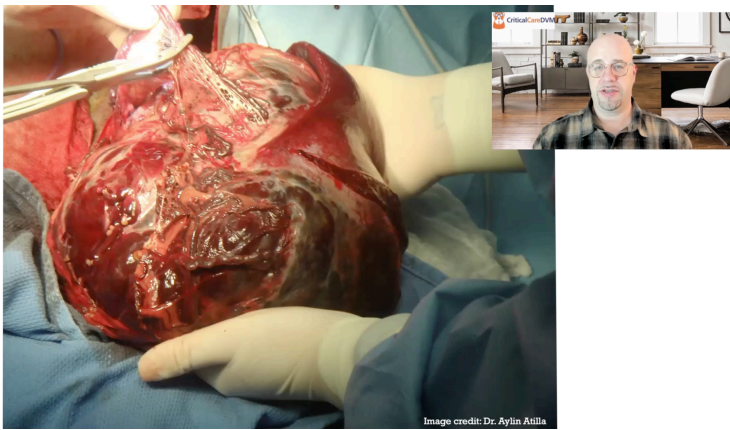
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- 2012 *J Vet Emerg Crit Care* prospective non-controlled study
 - 83 GDV lidocaine-treated; 47 GDV without lidocaine
- Lidocaine group – 2 mg/kg IV bolus followed by 50 mcg/kg/min IV CRI for 24 hours
- Lidocaine group had significantly decreased occurrence of:
 - Dysrhythmias
 - AKI
 - Hospitalization



Hopefully, you heard those two whoosh with the dogs breaths, and that was gastric decompression via trocarization. As we'll talk about in the next couple of slides, these post-operative ventricular dysrhythmias are very common following gastropexy, but I wanted to call your attention to this study because these were clinicians-- these are colleagues from Koret in Jerusalem that showed dogs with GDV who were treated with lidocaine at presentation.

Initially, they were given a bolus and then received a subsequent constant rate infusion. So, a bolus CRI. Those dogs that received lidocaine at presentation had lower incidence of dysrhythmias and acute kidney injury, and they did not stay in the hospital as long.



I'm not a surgeon, you don't want to hear me talk about surgery. Quite honestly, none of you want me in the operating room with a scalpel blade in my hand, so through the magic of the internet, surgery's done, and now we're in the post-operative period, OK?

EXPECTED POST-OPERATIVE ISSUES

- Hypotension
- Pain
- Dysrhythmias
- Electrolyte derangements
- Regurgitation
- Acid-base issues



Now, given the nature of these patients, we can logically anticipate potential post-operative issues that we're going to have to address. Blood pressure issues, dysrhythmias, pain, even regurgitation because of the gastroesophageal reflux and damage to the lower esophageal reflux.

POST-OPERATIVE CARE



- Goals
 - Maintain adequate DO_2 and tissue perfusion
 - Support cardiovascular function
 - GI & nutritional support
 - Multimodal analgesia



Given these potential complications, we have some obvious goals. Maintain oxygen delivery, maintain tissue perfusion, we need to start using the GI tract for food as soon as possible. We no longer wait 24 hours or so before re-feeding these patients.

We need to be aggressive with our nutritional support and that means potentially using temporary supplemental feeding tubes. It goes without saying that multi-modal analgesia is of paramount importance. Remember, pain is pro-inflammatory, and inflammation can certainly contribute to patient morbidity.

DO₂ & TISSUE PERFUSION



- Fluid therapy
 - Balanced electrolyte solution preferred
 - Address dehydration – replaced over 6-24 hours
 - Provide daily requirements (60 mL/kg/day)
 - Don't forget about ongoing losses
 - Avoid "1.5-2x maintenance"
- Consider albumin or synthetic colloid (HES) if hypoproteinemia documented
- Support the endothelial glycocalyx
 - 0.9% NaCl, colloids, hypervolemia readily damage the EG
 - EG damage = edema, hypercoagulability



Will fluid therapy be needed post-operatively?
Absolutely. It's just as important in the post-operative state to maintain gut perfusion. The sooner they feel good enough to eat-- because their gut is being perfused, edema is down-- the more protein they get on board. They heal faster.

How do we usually address fluid therapy in the post-operative period? We're still traditionally just using a balanced electrolyte solution. They should not be hypovolemic at this point. If everything has gone your way, you may still be correcting any dehydration that you calculated for your patient. certainly, we want to provide them their daily requirements.

If albumin is less than 1.5, 1.8 and you don't really think they're going to really start eating within the next few hours, then I would consider getting in that temporary supplemental feeding tube, and considering some albumin. Trying to keep that albumin above the 1.8 to 2 grams per deciliter mark.

CARDIOVASCULAR FUNCTION



- Heart rate & rhythm monitoring recommended for at least 24 hours
- Telemetry ideal for recumbent patients
- Intermittent monitoring in ambulatory patients
- Ventricular in nature most commonly



Now, we cannot forget that abnormal heart rhythms are just so very common in the post operative GDV patient. Hopefully, you treated your patient with that initial lidocaine bolus and kept them on a CRI until this point because of how much patients seemingly benefited from it, but now, in this post-operative period, ECG monitoring for at least 24 hours is really in the patient's best interest because of the high frequency of dysrhythmias. It doesn't mean that they have to be hooked up to telemetry. Of course, that's ideal, but you can do intermittent lead two checks.



POLL QUESTION #2



True or false: all of these post-operative ventricular distributions require lidocaine infusions?