Portal Venous Pressure In Dogs With Gdv Undergoing Surgery

Amelia Nesbitt[1]
Giselle Hosgood[1]
[1] The Animal Hospital at Murdoch University

Portal venous pressure in dogs with GDV undergoing surgery

Nesbitt, AR. Hosgood, GL.

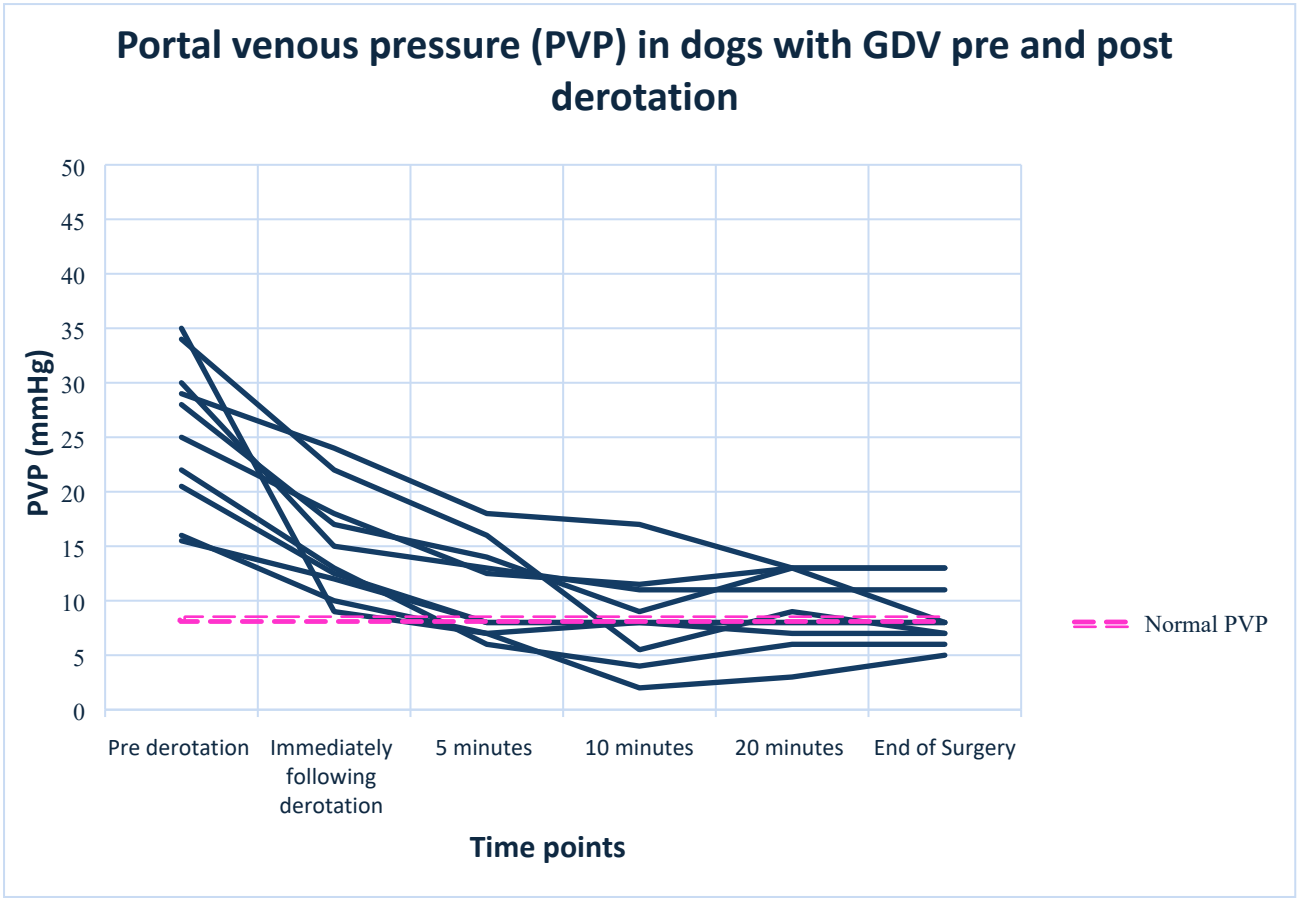
The Animal Hospital at Murdoch University

Acute portal hypertension can induce shock and has been documented during experimental gastric dilatation volvulus (GDV) in dogs. However, portal venous pressure (PVP) in dogs with GDV undergoing surgery has not been documented in a clinical setting.

Client-owned dogs diagnosed with GDV at TAHMU that underwent surgical de-rotation were prospectively enrolled. A central venous catheter was placed through the jugular vein pre-operatively for direct measurement of central venous pressure (CVP). At celiotomy, prior to abdominal retraction or organ manipulation, a jejunal mesenteric venous catheter was placed for direct measurement of PVP. The PVP and CVP (mmHg) was continuously displayed for the duration of surgery and video recorded for later analysis.

Ten dogs have been included to date. All dogs had an elevated PVP prior to de-rotation (median 26.5 mmHg, range 15.5 - 35.0). Immediately after derotation, and at the end of surgery, the PVP showed a median (range) decrease of 38% (14 - 74) and 62% (39 – 81), respectively. The median (range) PVP at the end of surgery was 8.0 mmHg (5 - 13) (Figure). CVP was not affected by derotation in any dog.

These findings document acute, reversable portal hypertension in clinical cases of dogs with GDV that underwent surgery and suggest that portal hypertension could contribute to shock in these dogs.


Portal venous pressure (PVP) in dogs with GDV pre and post derotation
PVP (mmHg)
50
45
40
35
30
25
20
15
10
5
0
Pre derotation
Immediately following derotation
5 minutes
10 minutes
20 minutes
End of Surgery
Time points
Normal PVP