Key Points

- Abomasal surgery is one of the most common procedures performed in dairy practice.
- Several different techniques have been described and work well in the hands of given practitioners in given situations.
- This presentation will describe one method of pyloro-omentopexy (PLOM) and results of using the technique.

PLOM Technique

The right flank incision is best made cranial and ventral to the center of the paralumbar fossa in order to more easily pexy the abomasum. The skin is undermined from the external oblique muscle at the dorso-caudal aspect of the abdominal incision. The abomasum is repositioned. #2 absorbable suture is placed through the muscular body wall into the abdominal cavity to incorporate the omentum caudo-dorsal to the pylorus then back through the body wall and tied in the subcutaneous space. This suture takes some of the tension off the pylorus for placement of the pyloro-pexy sutures. The pyloric region is sutured to the body wall cranial to the laparotomy incision using 1 polypropylene with 3 interrupted sutures. The sutures are placed in a horizontal manner from caudal to cranial in the peritoneum and muscular body wall, approximately 5 centimeters cranial to the incision, then cranial to caudal through the seromuscular layer of the pylorus. The sutures are placed as close to the ventral aspect of the incision as possible. The suture in the dorsal most part of pylorus is pre-placed first. Then two more interrupted sutures are placed more ventrally before any are tied. After securing the pylorus, a second suture is placed through the omentum in the dorso-cranial aspect of the incision as done initially in the dorso-caudal aspect. The body wall is then closed in a routine fashion from dorsal to ventral incorporating the omentum into the body wall closure until the level of the pyloro-pexy at which time the muscular body wall is closed without including the omentum.

Results

Over 500 cows have been done using this technique with minimal short-term complications but efforts to retrieve long-term follow up have been difficult for a number of reasons including: poor farm records, owners going out of the dairy business and several owners not embracing modern means of communication. Therefore, we did long-term evaluation of a smaller subset of animals coming from the same herd and compared animals that had either the PLOM or omentopexy (OM). The cows were followed until they left the herd. The mean (± SD) age of the cows in the two groups at surgery was not significantly different. The median time from freshening to surgery for the OM group was 12 days (range 2-30). The PLOM group had a median time to surgery of 15 days but the range was 2 – 326 days (P = 0.011). Most of the cows at the higher limit of this range were being used for a research protocol that included liver biopsy and diet modifications which we believe contributed to the LDA later in lactation. Fewer than 25% of the cows in the PLOM group were over 30 days from freshening to surgery. Seventy two percent of the OM cows remained in the herd to have another calf while only 60% of the PLOM cows calved after surgery. The research protocol cows made up much of this
difference since they were again under different culling parameters. The median time to the first post-operative calving for 21 OM cows was 413 days (range 328 – 522) which was not different from the 35 PLOM cows that calved a median of 409 days after surgery (range 331 – 551). The second post-operative calving occurred at a median of 811 days, and the third at a median of 1212 days. The median time that the LDA cows remained in the herd was 566 days (range 24 – 1838) and there were no differences in the two treatment groups. There were 15 different reasons for cows leaving the herd. Sixty two percent of the cows culled from the herd were because of lameness due to foot or leg problems, reproduction failure or mastitis. Foot and leg lameness led to the culling of 28% of the treatment cows and 22% of the herd in general. The treatment cows had the same 21% cull rate as the herd for reproductive failure, while mastitis accounted for 13% of the treatment cow culls and 17% of the herd. There was a reoccurrence of LDA in 4 of the 29 (14%) OM cows while none (0) of the 58 PLOM cows had a reoccurrence of LDA (P = 0.011).

Conclusions
While other reviews of cows treated for LDA have included short-term follow up to mainly evaluate completion of the lactation or re-breeding, the cows in this study had similar cull rates and reasons as the rest of the herd over their productive time in the herd. There were no differences in the parameters reviewed between the OM and the PLOM groups with the exception of a 14% reoccurrence of LDA in the OM group and no reoccurrence of LDA in the PLOM group rate.

Reference