A NOVEL BIPOLAR ELECTROSURGERY SYSTEM ELIMINATES STAPLES AND CLIPS IN LAPAROSCOPIC SURGERY

M Aleali, MD
R Sim, FRCS
A Ky, MD
J Milsom, MD, FACS
Most energy-based techniques are labelled for vessels $\leq 3$ mm

Mechanical techniques are labelled for vessels $\leq 10$ mm

Manufacturer's Recommended Range of Vessel Size for Application (mm)

- Suture
- Clips
- Staples
- Monopolar ES
- Bipolar ES
- Ultrasonic
- Ligasure

- * 3 sizes of clips and applicators
- ** 2 sizes of staples
vessels 1mm to 7mm in diameter

tissue bundles without dissection and isolation
Applies optimal pressure to vessel/tissue bundle

Energy delivery cycle:
measures initial resistance of tissue and chooses appropriate energy settings

delivers pulsed energy with continuous feedback control.
Pulses adapt as the cycle progresses

senses that tissue response is complete and stops the cycle
Hypothesis

LIGASURE - A novel bipolar electrosurgery system can be used safely and effectively in laparoscopic colon surgery
Aims

Use of Ligasure not previously described in laparoscopic colon surgery

Evaluate safety and efficacy

Divide all mesenteric vessels
Materials and Methods

Ligasure used in most laparoscopic colon cases

9 month period from Mar 99

No clips / staples used in vessel ligation

All mesenteric vessels heat sealed
RESULTS: LAPAROSCOPIC PROCEDURES PERFORMED

Laparoscopic Cases
total: 54
RESULTS: VESSELS LIGATED

- IMA/IMV
- L.COLIC
- R.BRANCH:MCA
- MCA/MCV
- ILEOCOLIC
- MARGINAL
- MESORECTUM
- SIGMOID BRANCHES
- CROHN'S MESENTERY
Major mesenteric vessel
Marginal vessel
Crohn’s mesentery
Conclusions

Ligasure is safe and effective
No major intra-operative bleeding
No postoperative bleeding

Ligasure may eliminate clips and vascular staples in laparoscopic colon surgery