Determing the cost effectiveness of peri-operative statin use for preventing adhesion related complications

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Background
- Post-operative adhesions frequently occur following intra-abdominal or pelvic surgery.
- Adhesion related complications (ARCs), such as small bowel obstruction (SBO) or need for adhesiolysis, are a serious public health and economic burden that currently lack successful strategies for prevention.
- Prior in vivo studies in murine models and a recent retrospective cohort study have shown that HA CM C (HA CMC) barrier: a sodium hyaluronate carboxymethylcellulose (HACMC) barrier: which possesses anti-fibrotic properties and could serve as a potential novel therapy to prevent ARCs.
- We aimed to assess the cost-effectiveness of peri-operative statin use in order to prevent post-operative ARCs.

Methods
- We employed a Markov Model to assess the cost-effectiveness of peri-operative statin administration in patients undergoing various types of intra-abdominal and pelvic surgeries including:
  - Cholecystectomy
  - Liver surgery
  - Retroperitoneal surgery
  - Appendectomy
  - Colon surgery
  - Hysterectomy
- Two treatment strategies were compared in this model (Figure 1): Statin Exposure: All individuals could either tolerate statins or not, before undergoing the index surgery. Statin Non-exposure: All individuals undergo the index surgery. Statin use was assumed to be for 1 month prior to the surgical event. Statins were assumed to be for 1 month prior to the surgical event. Statins, possess anti-fibrotic properties and could serve as a potential novel therapy to prevent ARCs. Statin use was assumed to be for 1 month prior to the surgical event. Statins, possess anti-fibrotic properties and could serve as a potential novel therapy to prevent ARCs.
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