Risk Factors of gastrointestinal hemorrhage After Long Posterior Instrumentation and Fusion in Degenerative Adult Lumbar Scoliosis

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Study Design

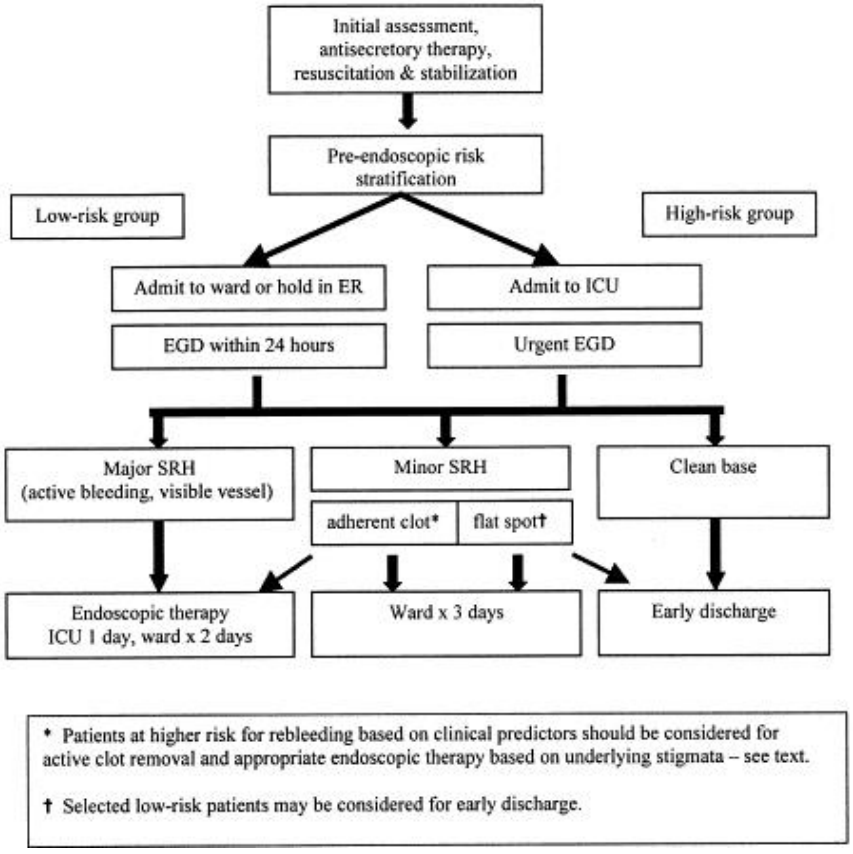
Retrospective database analysis.

Summary of Background Data

- GIH after Long Posterior Instrumentation and Fusion in Degenerative Adult Lumbar Scoliosis is a rare complication that can have devastating consequences.
- Incidences of GI bleeding after lumbar fusion are not well characterized in the current literature.

Object

- To determine rates of gastrointestinal hemorrhage(GIH) after lumbar fusions, a population-based database was analyzed to identify the incidence, mortality, and risk factorsassociated with anterior (ALF), posterior (PLF), and simultaneous anterior/posterior (APLF) lumbar fusions.



Terms

- Haematemesis
- Melaena
  - Blood in GIT > 14 hours
- Haematochezia
  - haemodynamically significant if upper GI cause
- Occult GIB
  - FOB +ve and/or IDA
- Obscure GIB
  - FOB +ve / IDA / PR bleed persistent or recurrent after initial negative endoscope
  - ie overt or occult

History / Examination

- Abnormal vital signs or Postural change in vital signs
  - Nb. Can also have vasovagal type reaction with bradycardia
- Frequency of H & M
- Nature of nasogastric lavage
  - Nb. Negative to 16%; usually duodenal
- Hb, Hct
  - To 72/24 before change (“people bleed whole blood”), and later for changes in MCV, MCHC.

Methods

- Data were obtained from 2002 to 2013.
- Patients undergoing long Posterior Instrumentation and Fusion in Degenerative Adult Lumbar scoliosis were identified and the incidence of GIH was evaluated.
- Patient demographics, Charlson Comorbidity Index, length of stay, costs, and mortality were assessed.
- SPSS version 20 (IBM; Armonk, NY)was used to detect statistical differences between groups and perform logistic regression analyses to identify independent predictors of GI bleeding. A P value of <0.001 denoted significance.

Results

- A total of 7871 Long Posterior Instrumentation and Fusion in Degenerative Adult Lumbar scoliosis were identified from 2002 to 2013.
- Of these, patients with GI bleeding demonstrated greater Charlson Comorbidity Index scores, length of stay, costs, and mortality ($P < 0.001$).
- Logistic regression analysis demonstrated independent predictors of GIHincluding advanced age (>65 yr), male sex, blood loss anemia, fluid/electrolyte disorders, metastatic Neoplasm, and weight loss ($P < 0.001$).

Conclusions

- The results of our study demonstrate very low complication rates of GIH after Long Posterior Instrumentation and Fusion in Degenerative Adult Lumbar Scoliosis.
- Across all surgical procedures, the presence of GI bleeding complications was associated with greater comorbidity, length of stay, cost, and mortality.
- We strongly advise physicians to perform stringent perioperative assessments of risk factors and to provide prompt medical attention to minimize the impact of GI bleeding complications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