Evaluation and Management of Isolated Elevated aPTT

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Background: Coagulation tests are frequently ordered for preoperative evaluation more as a routine procedure rather than based on clinical judgment. A significant percentage of these results may be abnormal but not imply a bleeding tendency during surgery. The nurse practitioners at Brigham and Women's Hospital's Weiner Center for Preoperative Evaluation evaluated the results of these tests to facilitate safe surgery. Inconsistencies were noted in both the preoperative ordering and management of these abnormal test results.

Purpose: This abstract presents an algorithm **(Figure)** to standardize management of patients with isolated elevated activated partial thromboplastin time (aPTT), thereby minimizing unnecessary delays or cancellations of procedures.

Description: A literature review was undertaken. Isolated elevated aPTTs were recorded for a 2-month period. The etiology of each abnormality was investigated to determine false positives, those attributed to lupus anticoagulant (LAC), and true positive results.

Results: Initial results suggest many false positives are related to laboratory issues, which can be identified by repeat testing. Limiting factors such as time until procedure, specialty testing expense, and patient concerns (medical condition and availability of further testing) determine which tests are performed in this phase. This algorithm identifies the presence of factors such as LAC and provides a guide for obtaining hematology consultation. Patient and surgery risk factors are identified that will streamline test ordering and reduce the resources spent pursuing false-positive results. The complete results of the data analysis are still pending at the time of this abstract submission. The algorithm is presented on page 38.

Conclusions: Standardization of protocols in the preoperative clinic can optimize resource utilization, eliminate unnecessary testing, and ensure appropriate evaluation prior to surgery. This identifies patients truly at risk for bleeding so that an appropriate plan is developed. Algorithms serve as a useful tool in this process.
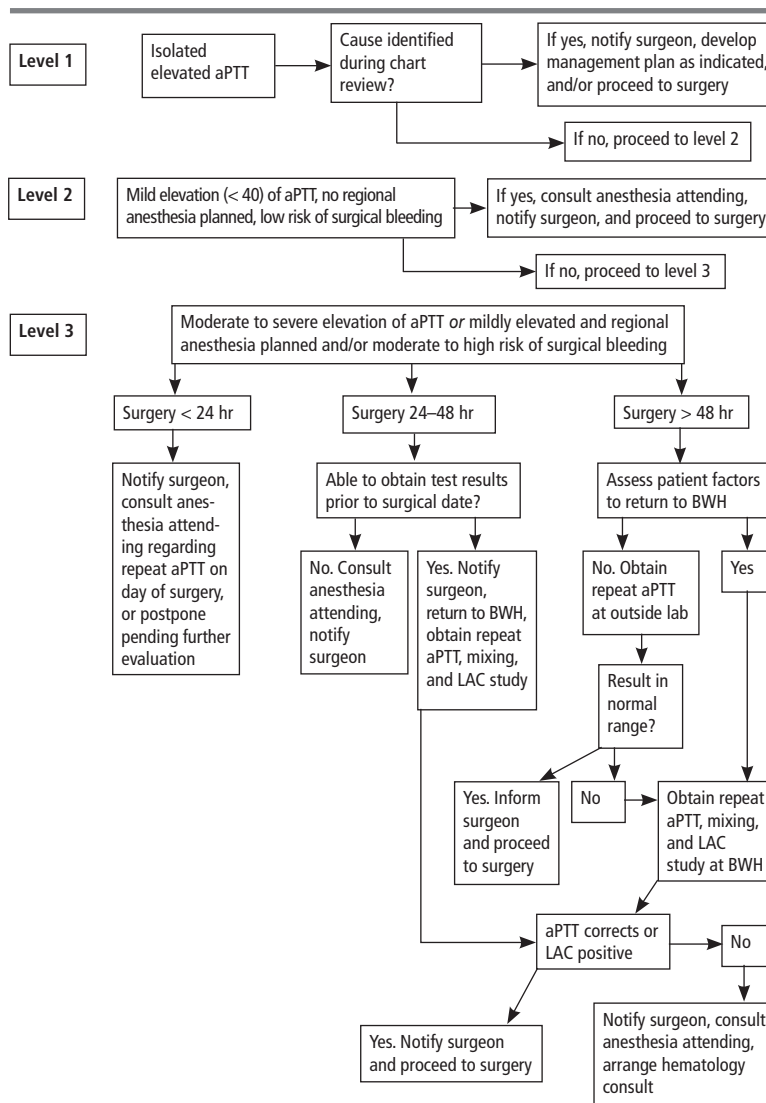
Level 1

Isolated elevated aPTT → Cause identified during chart review? → If yes, notify surgeon, develop management plan as indicated, and/or proceed to surgery

If no, proceed to level 2

Level 2

Mild elevation (< 40) of aPTT, no regional anesthesia planned, low risk of surgical bleeding → If yes, consult anesthesia attending, notify surgeon, and proceed to surgery

If no, proceed to level 3

Level 3

Moderate to severe elevation of aPTT *or* mildly elevated and regional anesthesia planned and/or moderate to high risk of surgical bleeding

Surgery < 24 hr

Surgery 24–48 hr

Surgery > 48 hr

Notify surgeon, consult anesthesia attending regarding repeat aPTT on day of surgery, or postpone pending further evaluation

Able to obtain test results prior to surgical date?

No. Consult anesthesia attending, notify surgeon

Yes. Notify surgeon, return to BWH, obtain repeat aPTT, mixing, and LAC study

Assess patient factors to return to BWH

No. Obtain repeat aPTT at outside lab

Yes

Result in normal range?

Yes. Inform surgeon and proceed to surgery

No

Obtain repeat aPTT, mixing, and LAC study at BWH

aPTT corrects or LAC positive

No

Yes. Notify surgeon and proceed to surgery

Notify surgeon, consult anesthesia attending, arrange hematology consult

FIGURE. Algorithm. aPTT = activated partial thromboplastin time; BWH = Brigham and Women's Hospital; LAC = lupus anticoagulant