INFERIOR VENA CAVA FILTERS

QUIZ 10 QUESTIONS MAY 5, 2014
QUESTION 1

1. Anatomically Transposition of the IVC is observed in what % of individuals

- A) 1-5%
- B) .2-.05%
- C) 3-5%
- D) 5-10%
ANSWER QUESTION 1

• Answer B

• “Transposition of the IVC is observed in 0.2-0.5% of individuals. A left-sided IVC drains into the left renal vein and crosses to the right of the spine. It then continues cranially in the normal position.” Medscape reference Inferior Vena Cava Filters, Siskin et al

• Updated: May 14, 2013
QUESTION 2

• Supra-renal IVC filter may be considered in specific situations. Name 3 of those situations:
ANSWER QUESTION 2

1. Thrombus in infra-renal IVC
2. Thrombus extension superior to existing infra-renal IVC filter
3. Extrinsic compression or intrinsic narrowing of infrarenal IVC
4. Pregnancy
5. Anatomic variants (e.g. duplicated IVC)

Resource: PANTRY/ Procedure/trouble shooting
QUESTION 3

• Indications for IVC filter placement are as follows:
  • Therapeutic (Documented Thromboembolic Disease)
  • Prophylactic (No Thromboembolic Disease)
  • Suprarenal Filter Placement
  • Filters Placed for Temporary Use and Possible Future Retrieval

• Keeping these indications in mind, is an IVC filter indicated in a pregnant patient with severe trauma resulting in spinal cord injury? There is no documented PE or DVT.
ANSWER QUESTION 3

• Yes.
• Although the patient has no documented PE or DVT, she is at risk of developing a potential PE/DVT. Consequently, she is in need of a prophylactic IVC filter. Suprarenal filter placement is not contraindicated in pregnant patients. IVC assessment with imaging (i.e. vena cavography) is performed prior to filter placement.

• Links:
  http://www.acr.org/~/media/A569BE8F18AE4CFAA2868B6E0984DBD8.pdf,
  http://guideline.gov/content.aspx?id=15730
QUESTION 4

• Define IVC penetration.
ANSWER QUESTION 4

- IVC penetration - penetration of the vein wall by filter hooks with transmural incorporation. For quality improvement reporting purposes, the definition of IVC penetration is filter strut or anchor devices extending more than 3 mm outside the wall of the IVC as demonstrated by CT, venography, or autopsy. Acute penetration occurring during placement of the filter is considered an insertion problem (see below)

- Links:
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  http://guideline.gov/content.aspx?id=15730
QUESTION 5

The following are absolute contraindications for IVC filter placement:

- Unable to access IVC
- Extensive IVC filter thrombosis with no suitable placement for filter
- Severe, uncorrectable coagulopathy
- Bacteremia, sepsis, or untreated infection

True or False
ANSWER QUESTION 5

- False

- Severe, uncorrectable coagulopathy and bacteremia, sepsis, or untreated infection are relative contraindications.
QUESTION 6

• Filter movement - a change in filter position compared to its deployed position (either cranial or caudal) of more than 3 cm as documented by plain film imaging, CT, or venography.

• True or False
ANSWER QUESTION 6

• False

• Filter movement - a change in filter position compared to its deployed position (either cranial or caudal) of more than 2 cm as documented by plain film imaging, CT, or venography.

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QUESTION 7

• What are the access site complications associated with this procedure?
ANSWER QUESTION 7

Arteriovenous fistula, hematoma, or bleeding requiring transfusion, hospitalization (either admission or extended stay), or further treatment.

• Links:
QUESTION 8

- Delayed post procedural adverse events include the following:

  - Filter migration or fracture (<1%)
  - Caval perforation (<1%)
  - Caval thrombosis (<3%)
  - New PE or DVT (3-5%)

- True or False
ANSWER QUESTION 8

• True
QUESTION 9

- What is filter embolization?
Filter embolization – postdeployment movement of the filter or its components to a distant anatomic site completely out of the target zone.

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QUESTION 10

• This is your last Question!

• What are some the problems associated with filter insertion?
ANSWER QUESTION 10

Malfunctions of the filter or deployment system such as incomplete filter opening, filter tilt more than 15 degrees from the IVC axis (e.g., non-self-centering filters), misplacement of filter outside the infrarenal IVC when the operator’s intent is to place the filter in the infrarenal IVC (e.g., when a portion of the filter is within one iliac vein), or prolapse of filter components. Filter malposition requiring surgical/endovascular removal is considered an insertion problem complication.

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  http://guideline.gov/content.aspx?id=15730

• Thank you for taking this quiz.