RECOMMENDATIONS for the MEDICAL/RADIOGRAPHIC EVALUATION of the PREGNANT ADULT PATIENT WITH NON-FATAL STRANGULATION

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GOALS:
1. Evaluate carotid and vertebral arteries for injuries
2. Evaluate bony/cartilaginous and soft tissue neck structures
3. Evaluate brain for anoxic injury
4. Evaluate/Monitor the fetus

History of and/or physical exam with ANY of the following:
- Loss of consciousness (anoxic brain injury)
- Visual changes: “spots”, “flashing light”, “tunnel vision”
- Facial, intraoral or conjunctival petechial hemorrhage
- Ligature mark or neck contusions
- Soft tissue neck injury/swelling of the neck/cartoid tenderness
- Incontinence (bladder and/or bowel from anoxic injury)
- Neurological signs or symptoms (LOC, seizures, mental status changes, amnesia, visual changes, cortical blindness, movement disorders, stroke-like symptoms, unilateral headache, and bruit)
- Dysphonia/Aphonia (hematoma, laryngeal fracture, soft tissue swelling, recurrent laryngeal nerve injury)
- Dyspnea (hematoma, laryngeal fractures, soft tissue swelling, phrenic nerve injury)
- Subcutaneous emphysema (tracheal/laryngeal rupture)

History of and/or physical exam with:
- No LOC (anoxic brain injury)
- No visual changes: “spots”, “flashing light”, “tunnel vision”
- No petechial hemorrhage
- No soft tissue trauma to the neck
- No dyspnea, dysphonia or odynophagia
- No neurological signs or symptoms (i.e. LOC, seizures, mental status changes, amnesia, visual changes, cortical blindness, movement disorder, stroke-like symptoms)
- And reliable home monitoring

Recommended Radiographic Studies to Rule Out Life-Threatening Injuries* (including rare delayed presentations of up to 2 years)
- CT Angio of carotid/vertebral arteries - (GOLD STANDARD for evaluation of vessels and bony/cartilaginous structures, less sensitive for soft tissue trauma. Safe for all stages of pregnancy and/or lactating patients.) or
- CT neck with contrast - (less sensitive than CT Angio for vessels, good for bony/cartilaginous structures. Safe for all stages of pregnancy and/or lactating patients.) or
- MRIs without gadolinium:
  - MRA of neck (less sensitive than CT Angio for vessels) or
  - MRI of neck (less sensitive than CT Angio for vessels and bony/cartilaginous structures, best study for soft tissue trauma) or
  - MRI/MRA of brain (most sensitive for anoxic brain injury, stroke symptoms and intercerebral petechial hemorrhage)
- Safe to perform during all trimesters for pregnant and/or lactating patients.
- MRIs with gadolinium (NOT RECOMMENDED: Use should be limited to situations in which the benefits clearly outweigh possible risks.)
- Carotid Doppler Ultrasound (NOT RECOMMENDED: Least sensitive study, unable to adequately evaluate vertebral arteries or proximal internal carotid.)

*References on page 2

Discharge home with detailed instructions including a lethality assessment, per institution Trauma Pregnancy Protocol/ OB Consultation to return to ED if: neurological signs/symptoms, dyspnea, dysphonia or odynophagia develops or worsens

Pregnant Strangulation patient presents to the Emergency Department

Evaluate per institution Trauma Pregnancy Protocol/ OB Consultation

Consult Neurology Neurosurgery/ Trauma Surgery/ OB for admission
Consider ENT consult for laryngeal trauma with dysphonia

Continued ED/ Hospital Observation (based on severity of symptoms, reliable home monitoring, and a lethality assessment discussion)
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**PREGNANCY REFERENCES**

(Recommendations based upon expert consensus, case reports, and cited medical literature)


**GENERAL STRANGULATION REFERENCES**