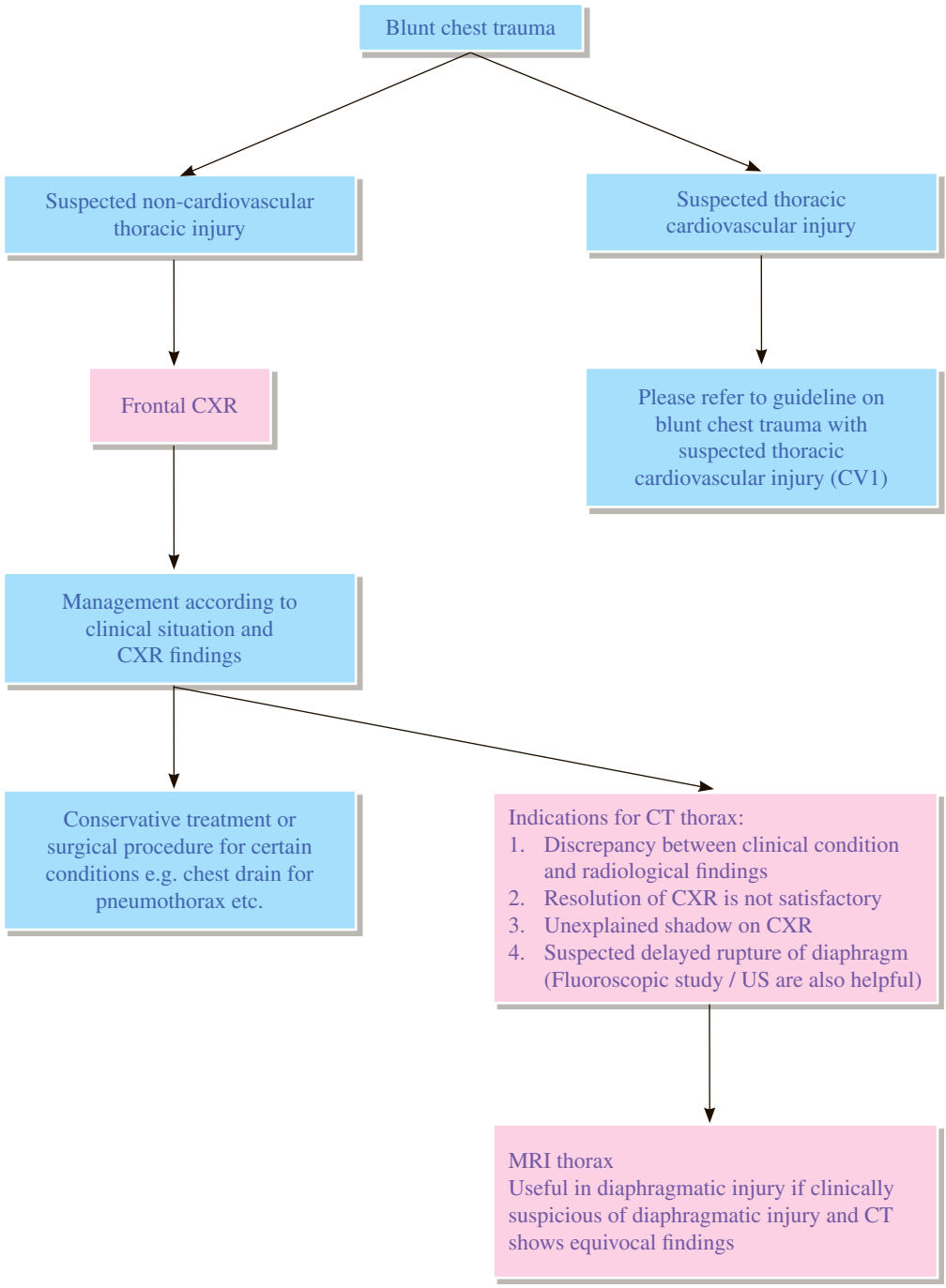
Blunt chest trauma
Suspected non-cardiovascular thoracic injury
Suspected thoracic cardiovascular injury
Frontal CXR
Please refer to guideline on blunt chest trauma with suspected thoracic cardiovascular injury (CV1)
Management according to clinical situation and CXR findings
Conservative treatment or surgical procedure for certain conditions e.g. chest drain for pneumothorax etc.
Indications for CT thorax:
1. Discrepancy between clinical condition and radiological findings
2. Resolution of CXR is not satisfactory
3. Unexplained shadow on CXR
4. Suspected delayed rupture of diaphragm (Fluoroscopic study / US are also helpful)
MRI thorax
Useful in diaphragmatic injury if clinically suspicious of diaphragmatic injury and CT shows equivocal findings

REMARKS

1 General

1.1 Clinical and radiological signs of significant lung injury are often absent on the initial evaluation. This is especially true for lung contusion for which the signs evolves over a period of 2 to 3 days.

1.2 There is no consistent relationship between evidence of external chest wall injury (either clinical or radiological signs) and the likelihood of serious underlying lung injury. This principle is especially important to remember when dealing with children, who because of their highly elastic chest walls can have serious lung injury even when there is no external sign of injury.

1.3 Radiographic studies greatly underestimate the true extent of lung and chest wall injury.

2 Plain radiograph

2.1 Chest X-ray (CXR) is the primary bedside imaging modality to evaluate the chest in post-traumatic patients.

2.2 CXR should preferably be taken in the erect posterior-anterior (PA) view. In case of major trauma, only supine anterior-posterior (AP) view may be possible.

2.3 Strict adherence to high standards of radiographic technique with respect to exposure factors, patient positioning and ventilation cycle is needed in order to obtain useful images.

3 CT

3.1 CT is the most sensitive and accurate imaging modality to evaluate the post-traumatic abdomen and chest.

3.2 CT is superior to CXR in imaging the chest wall, pulmonary parenchyma and mediastinum.

3.3 CT should be performed only if the patient's clinical condition is stable.

4 MRI

4.1 It is useful in assessing diaphragmatic integrity if there is clinical suspicion of diaphragmatic injury and CT shows equivocal findings.

4.2 MRI is most useful as a problem-solving tool and not as part of a standard trauma protocol, except in rare instances of significant thoracic spinal injury.

REFERENCES

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