

# IVRA

## Case 20



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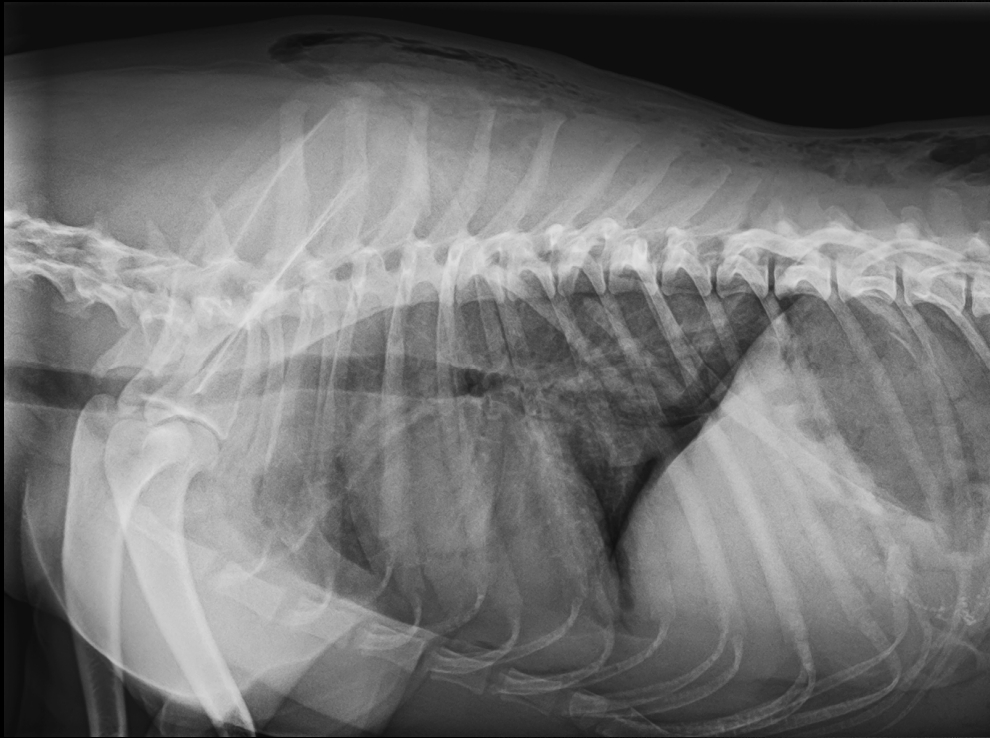
# Signalment and History

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3-year-old M Mixed breed dog

Attacked by other dog

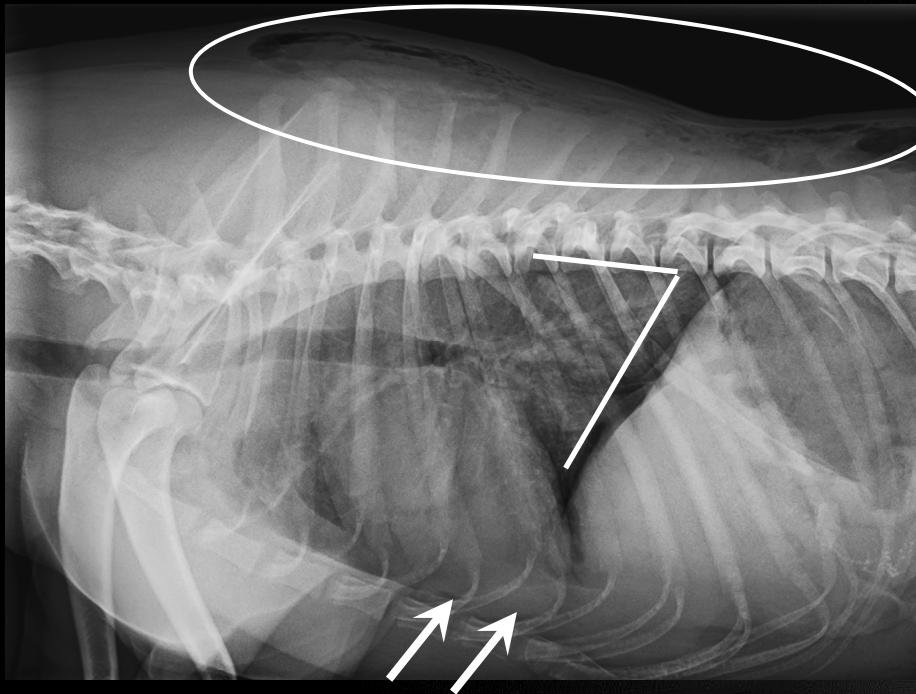
IVRA





# Description

# IVRA



There are multiple rib fractures (better seen on VD view).

The caudal lung lobes are retracted and surrounded by free gas.

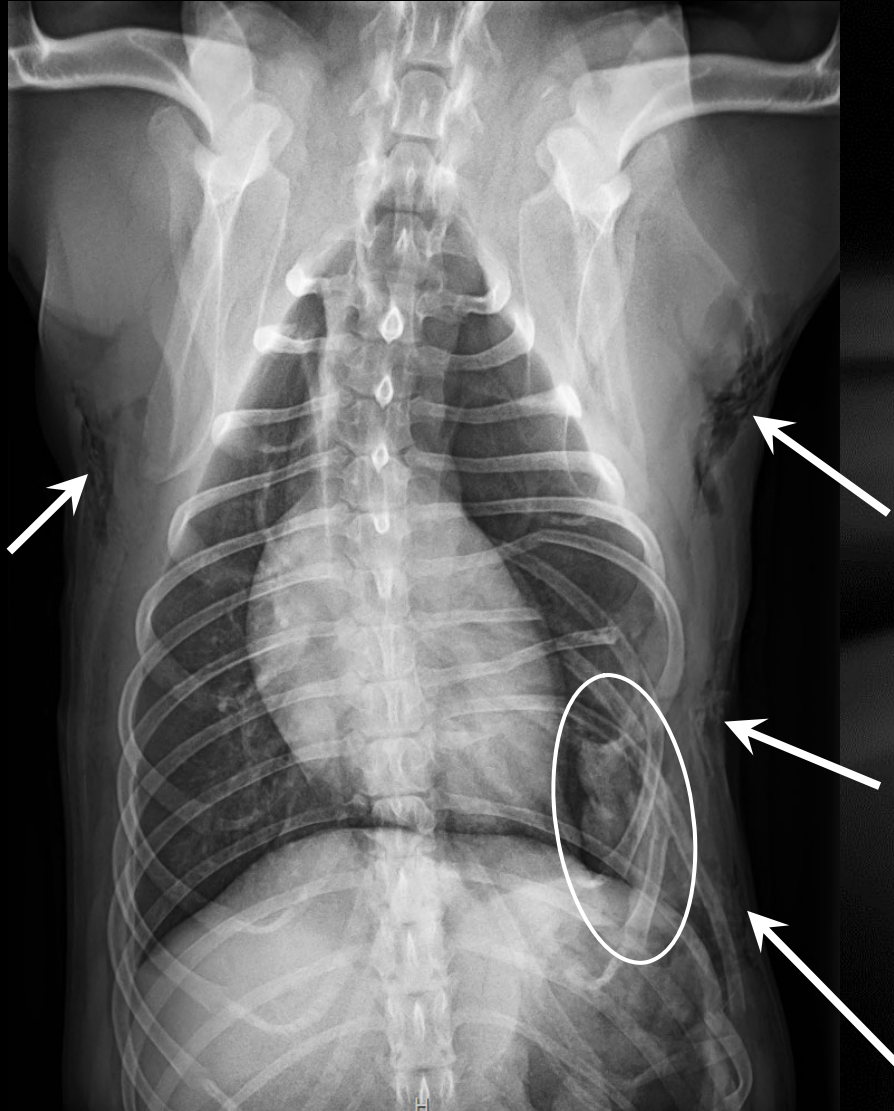
There is increased opacity of the caudodorsal lung lobes.

Small gas opacities are noted ventral to the heart.

There are gas opacities within the subcutaneous tissues.

# Description

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There are fractures of the 6<sup>th</sup> through 10<sup>th</sup> left ribs (at least rib 8 and 9 have more than 1 fracture).

There is focal increased opacity of the left caudal lung lobe with lack of visualization of pulmonary vessels.

There are multifocal subcutaneous gas opacities.

# Conclusion

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Multiple rib fractures are consistent with trauma. More than one fracture per rib indicates instability (flail chest).

Mild pneumothorax

Alveolar pattern associated with the left caudal lung lobe is consistent with pulmonary hemorrhage/contusion. A component of atelectasis secondary to pneumothorax may also be present.

Subcutaneous emphysema



## Follow-up

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Even though there was initial concern for instability of the rib fractures, the dog was doing clinically well and was treated conservatively (wound management, pain medications and antibiotics). The small volume pneumothorax did not require treatment.

The patient recovered well and was discharged from the hospital 2 days later.

# Comments

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Bite wounds are a common reason of thoracic trauma in dogs and cats and carry the risk of intrathoracic injury.

Even though this dog did well with medical management, it is important to note that surgery may be required in other cases and when intrathoracic injury has occurred.

A recent paper found that dogs with pseudo-flail chest, rib fracture, or pneumothorax are more likely to undergo exploratory thoracotomy, and that nonsurvival is more likely in dogs with pleural effusion or positive bacterial culture (Frykfors von Hekkel et al. 2020).



# References

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Frykfors von Hekkel AK, Pegram C, Halfacree ZJ. Thoracic dog bite wounds in dogs: A retrospective study of 123 cases (2003-2016). *Vet Surg*. 2020 May;49(4):694-703. doi: 10.1111/vsu.13402. Epub 2020 Feb 20. PMID: 32077513.

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Cabon Q, Deroy C, Ferrand FX, Pillard P, Cachon T, Fau D, Goy-Thollot I, Viguier E, Carozzo C. Thoracic bite trauma in dogs and cats: a retrospective study of 65 cases. *Vet Comp Orthop Traumatol*. 2015;28(6):448-54. doi: 10.3415/VCOT-15-01-0001. Epub 2015 Sep 18. PMID: 26383037.

Holt DE, Griffin G. Bite wounds in dogs and cats. *Vet Clin North Am Small Anim Pract*. 2000 May;30(3):669-79, viii. doi: 10.1016/s0195-5616(00)50045-x. PMID: 10853282.