

COMPUTED TOMOGRAPHY REPORT

REFERRING CENTRE

Referring centre: [REDACTED]
Referring vet: [REDACTED]
E-mail: [REDACTED]
Tel: [REDACTED]

PATIENT INFORMATION

Owner: [REDACTED] Patient: [REDACTED]
Species: Avian Breed: Yacko Sex: M Age: 11 years Weight: 4,2 Kg
History: Apathy, anorexia and weakness. Alteration of the motility of the pelvic limbs. Multiple collapsing episodes weekly. He has not been eating very well for the past couple of days. Chronic respiratory signs with temporary improvement with medication. Pecking of the chest feathers.
Region: body

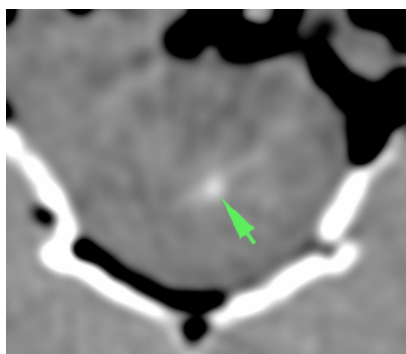
REPORT

Technical comments: Pre-contrast series of the head and neck, and pre and post-contrast series of the coelomic cavity, with soft tissue, lung and bone algorithms, with slice thickness of 0,625 mm.

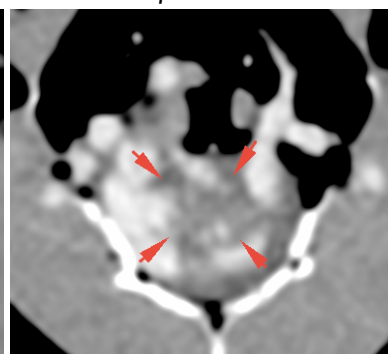
Description:

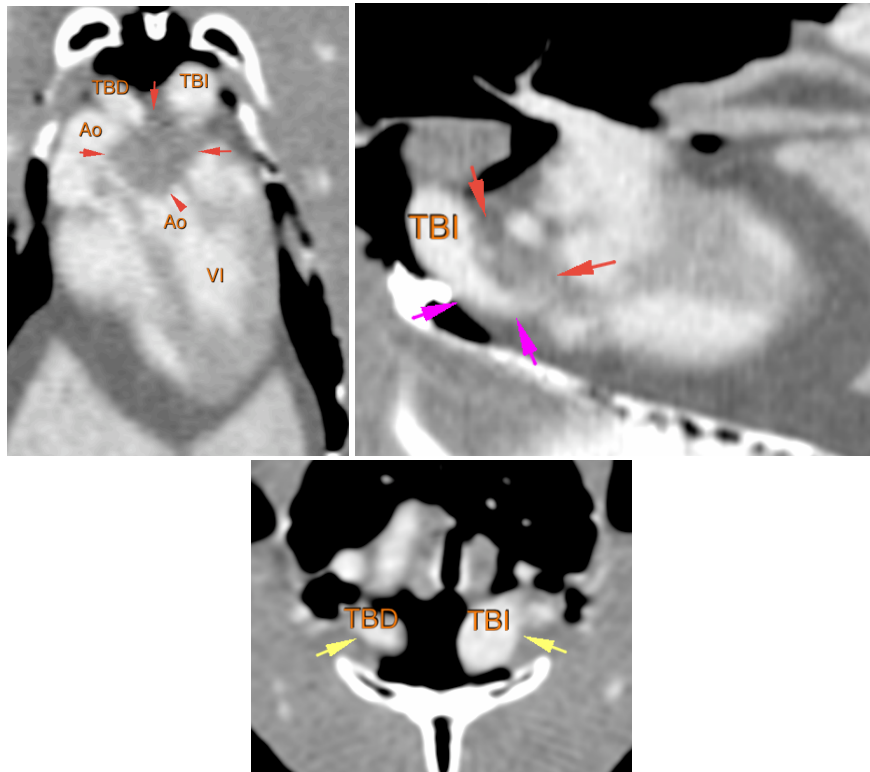
There is a soft tissue attenuating mass (approx. 1.1 cm CrCd x 0.6 cm DV x 0.8 cm LM), with irregular and ill-defined margins located at the level of the cardiac base (red arrows). This lesion has multiple hyperattenuating foci (consistent with mineralisations - green arrows) visible in the pre-contrast series, and has very mild to no post-contrast enhancement. This lesion invades and causes a filling defect at the level of the ascending aorta, practically obliterating its lumen (measuring approx. 8.2 mm in length), and another part located at the cardiac base displaces both brachiocephalic trunks (RBT and LBT) lateroventrally, being more evident on the left side, which is moderately compressed at its most proximal aspect (pink arrows). Both brachiocephalic trunks are moderately distended (yellow arrows), the left one being more prominent.

Pre-contrast

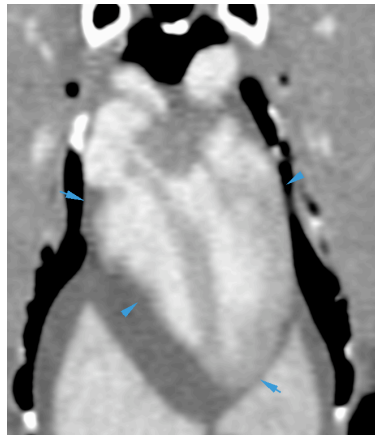


post-contrast

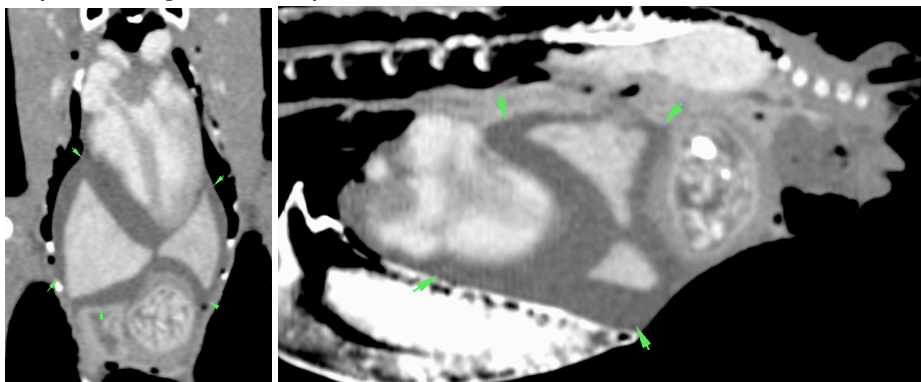


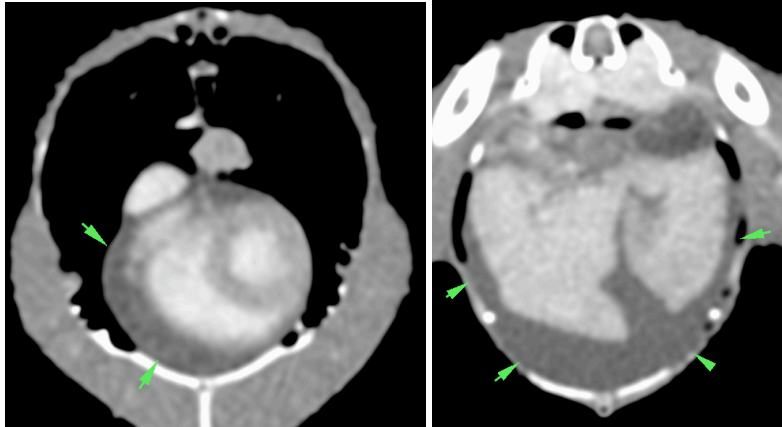


The heart is moderately and generally enlarged (blue arrows).

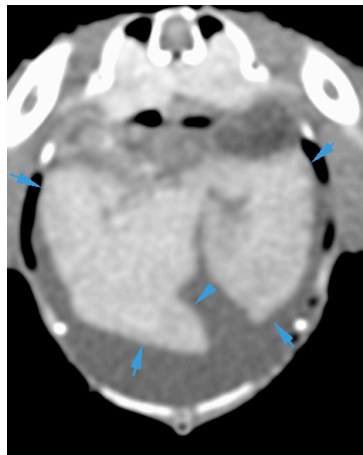


The coelomic cavity is slightly distended with presence of a fluid attenuating, non-contrast enhancing material (3-19 HU), consistent with effusion (green arrows). This material surrounds all organs in the coelomic cavity, especially between the hepatic lobes, and surrounds the heart, mainly in the region of the apex.





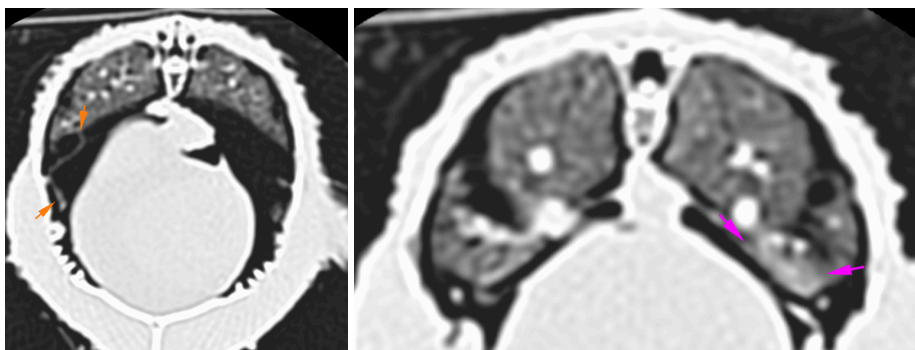
The liver is subjectively moderately enlarged, with slightly rounded margins, showing homogeneous attenuation and post-contrast enhancement (blue arrows).



The remaining organs (gastrointestinal tract, kidneys and cloaca) do not seem to show evident abnormalities.

The air sacs appear reduced in size, which could be due to the distension of the rest of the coelomic cavity. In the right air sacs, there are slightly thickened bands compared to the contralateral side (orange arrows). Otherwise, the air sacs appear well aerated.

There is a subtle focal area of increased attenuation in the ventral and caudal aspects of the left lung parenchyma (pink arrows). The rest of the lung parenchyma is normal. Trachea unremarkable.



The osseous structures do not show evident abnormalities.

Head and neck unremarkable.

Conclusions:

1. Mass at the level of the cardiac base, invading the aortic lumen, could be consistent with a granulomatous lesion (mycotic granuloma (e.g. *Aspergillus*), among others) vs a neoplastic process, less likely, considering that there is practically no contrast enhancement. Other ddx, such as a filling defect in the aorta only, are unlikely as the lesion appears to have an extravascular portion located at the cardiac base (ddx, however, would include severe atherosclerosis vs neoplasia).
2. Subjective cardiomegaly, consistent with heart failure associated with obstruction of the aortic lumen.
3. Presence of free fluid in the coelomic cavity secondary to right heart failure (most likely ascites). Other types of effusion, such as inflammatory, cannot be ruled out.
4. Moderate hepatomegaly, consistent with congestion or infectious or metabolic liver disease, among others.
5. Subjective mild thickening of the air sac walls, which could be consistent with inflammatory alteration (aerosacculitis) associated with an infectious process vs incidental anatomical variation, less likely.
6. Focal area of increased attenuation in the left lung parenchyma, which could be consistent with a pneumonic infiltrate (associated with the fungal process or a concomitant bacterial infection).

Clinical comments/Recommendations:

- Evaluation of cardiac abnormalities and coelomic free fluid sample.

Even up to date, antemortem diagnosis of cardiovascular diseases in avian practice remains challenging (most of the cardiovascular lesions described are identified during post-mortem examinations). The initial diagnostic approach in these patients should include complete anamnestic data (age, gender, lifestyle and diet), blood test (especially plasma lipid levels), blood pressure measurement, and echocardiography.

Cardiovascular disease has traditionally been thought to be a rare occurrence in pet birds, but it is frequently encountered in practice. At the present time, therapeutic interventions for cardiovascular disease in birds are largely empirical and extrapolated from small animal or human medicine. There is a paucity of pharmacokinetics and pharmacodynamic data and no clinical trials in avian species for cardiovascular therapeutic agents.

Cardiovascular diseases can be either primary or secondary. Frequently described cardiovascular lesions in pet birds are atherosclerosis, pericardial effusions, pericarditis, myocarditis, dilatation or hypertrophy of the ventricles, and valvular endocarditis.

Recently, three interesting papers about cardiac diseases in birds (clinical presentation, diagnosis, and therapeutic options) have been published: *Veterinary Clinics of North America: exotic animal practice 2022*; “*Histopathological findings in the cardiovascular system of psittacidae in routine diagnostics*”, “*Cardiovascular diseases in pet birds. Therapeutic options and challenges*”, and “*Heart disease in pet birds – Diagnostic Options*”. I recommend reviewing them to have a better understanding about the topic (including therapeutic options).

- Evaluation of the mass at the level of the cardiac base (endoscopy, biopsy, and histopathological evaluation vs fungal/bacterial culture)

Fungal infection, especially *Aspergillus* sp., is a common finding in the upper and lower respiratory tract, with pericardial spread described in few cases. Bacterial infection (including *Mycobacterium* sp.), or neoplasia (lymphomas are described with certain frequency in psittacines) should also be included in the differential diagnosis.

Endoscopy allows direct visualization and detection of gross abnormalities (also useful for assessment cardiomegaly and pericardial effusion, pericardial thickening, among others). In this case, the clavicular approach is the preferred one as it provides access to the heart, great vessels, and has been useful for the identification, sampling, and treatment of cranial coelomic masses. In addition, left and right approaches should be avoided in this patient due to ascites (high risk of fluid leakage into the air sac system).

If you have any questions regarding imaging findings and/or medical recommendations, please do not hesitate to contact us.

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