

Une thyroïde pas comme les autres...

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Jade Robert - Interne 2^e S
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Histoire de la maladie :

Mlle X, 19 ans, adressée dans le service de médecine nucléaire pour exploration d'une hyperthyroïdie. Pas d'antécédent particulier, pas de traitement au long cours.

1/ Symptomatologie :

Palpitations cardiaques insomniantes depuis quelques semaines.

Pas de perte de poids.

Pas de tremblement.

Pas de diarrhée.

Pas de douleur cervicale.

2/ Biologie :

TSH effondrée = 0,01 mUI/l

T4L = 18 pmol/l (N < 16)

T3L = 6,75 pmol/l (N < 6)

TRAK et anti-TPO négatifs

VS et CRP N

3/ Pas d'échographie thyroïdienne à disposition.

Injection de 111MBq ^{99m}Tc
Passage sous caméra CZT VERITON 15 min après



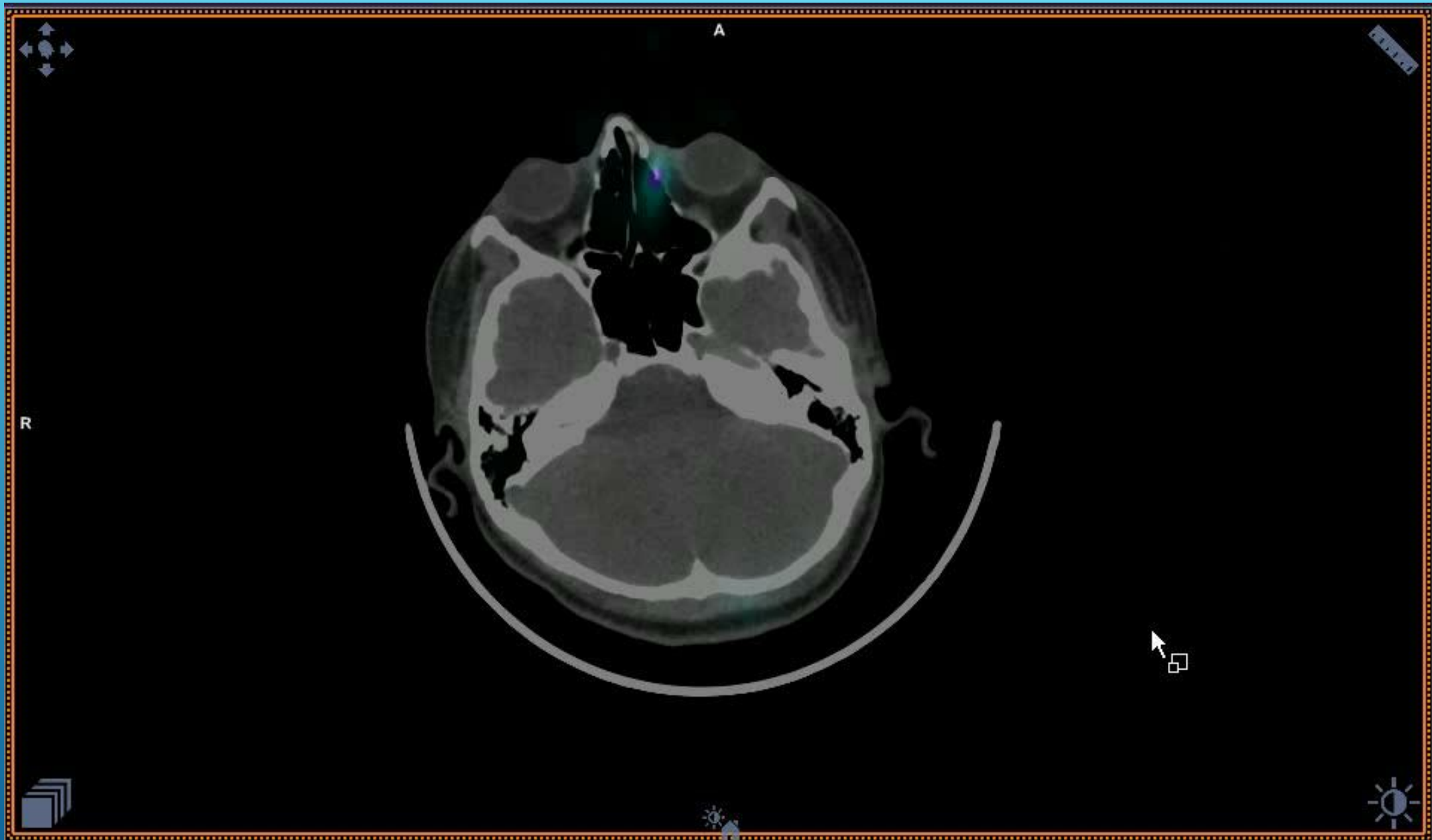
Vue antérieure



Vue postérieure



Reconstructions pseudo-planaires



L'examen met en évidence une scintigraphie blanche, il faut évoquer...

A – un examen avec PCI effectué récemment

B – une prise d'hormone thyroïdienne

C – une extravasation du traceur

D – une thyroïdite

E – aucune des réponses ci-dessus : il n'y avait pas d'indication à faire la scintigraphie dans ce contexte

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Nouvel interrogatoire de la patiente :

Pas de prise de composé iodé, de coupe faim ni d'hormone thyroïdienne déclarée.

Symptômes ORL 5 mois auparavant avec prise d'antibiotiques et de cortisone.

Prise de compléments alimentaires phyto phanères => pas d'interaction avec les HT.

COVID + Omicron asymptomatique il y a quelques semaines.

Examens complémentaires :

- CR Echographie thyroïdienne disponible quelques jours plus tard : Thyroïde de taille normale, non nodulaire. Pas d'hypervascularisation au Doppler.
- Dosage de la thyroglobuline dans la norme.

Diagnostic le plus probable :

A – Thyroïdite subaiguë de De Quervain : pas de goitre ni douleur cervicale, VS et CRP normales..

B – Prise occulte d'hormones thyroïdiennes (médecins dans sa famille) : TG normale

C – Thyroïdite silencieuse à SARS-Cov 2

D – Hyperthyroïdie gestationnelle transitoire : femme en âge de procréer, β -HCG faits avant la scintigraphie (négatifs)

E – Thyroïdite d'Hashimoto : pas de goitre, anti-TPO négatifs

Des cas de thyroïdite silencieuse suite à une infection par SARS-Cov 2 décrits dans la littérature dès 2020 :

“ Fifty-eight patients (20.2%) were found with TSH below the reference range [...], whereas TSH was normal and high in the remaining 214 (74.6%) and 15 (5.2%) patients, respectively. [...]

Thyroid hormones were measured in 73 patients with abnormal TSH values. Overt thyroid dysfunction was diagnosed in 33 patients (31 with thyrotoxicosis and 2 with hypothyroidism), whereas a subclinical thyroid dysfunction was present in 40 patients (27 with thyrotoxicosis and 13 with hypothyroidism).

[...] Serum TRAb, TgAb and TPOAb were measured in nine patients and in all of them, they resulted negative. Among the eight patients with overt thyrotoxicosis in whom thyroid ultrasound was performed, signs of thyroid inflammation were reported in two cases, small thyroid nodules in other three patients, whereas the remaining three patients did not show any significant alteration of thyroid structure. Overt thyrotoxicosis was accompanied by atrial fibrillation with high heart rate in ten patients (32.3%). Moreover, five patients with overt thyrotoxicosis developed thromboembolic events (ischemic stroke in two cases, venous thromboembolism in three cases). No local signs or symptoms of subacute thyroiditis were recorded by the physicians.”

De même que d'autres troubles thyroïdiens :

Table 2 Summary of findings regarding the relationship between thyroid and COVID-19

ACE2 and TMPRSS2 expression levels are high in thyroid and more than in lungs [50]

Abnormal immune responses and cytokine storm associated to COVID-19 may induce thyroid gland inflammation [50, 54]

Two mechanisms (i.e. indirect and direct) might account for the changes in the thyroid gland and HPT axis [9–13]

COVID-19-related thyroid disorders could include thyrotoxicosis, hypothyroidism, nonthyroidal illness syndrome

COVID-19-related SAT is generally comparable to classical SAT and it can occur after or during COVID-19 [36]

Thyrotoxicosis in absence of neck pain is frequent in patients hospitalized for COVID-19 [42]

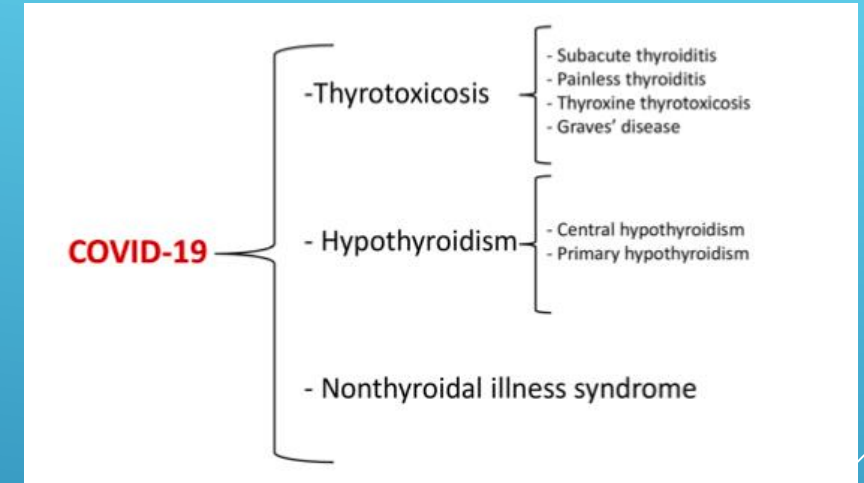
Low TSH and T3 and thyrotoxicosis appear to be predictors of poor outcome of patients hospitalized for COVID-19 [7]

Treatment plans for thyroid cancer are considerably changing in the direction of more teleconsultations and less diagnostic and therapeutical procedures [70–75]

Further research is necessary to explore the impact of the limitation of scheduled clinical activities on outcomes of thyroid cancer patients and whether thyroid cancer (or treatment-specific factors) increase vulnerability to COVID-19

ACE2, Angiotensin-converting-enzyme 2; TMPRSS2, transmembrane protease serine 2;

HPT, hypothalamic–pituitary–thyroid; SAT, subacute thyroiditis



“ In a short-term follow-up, thyroid function spontaneously normalized in most subjects with SARS-CoV-2-related thyrotoxicosis. However, thyroid hypoechogenicity was found in a remarkable number of them and future longer-term studies are needed to clarify whether this ultrasonographic alteration may predispose to develop late-onset thyroid dysfunction. ”

Sources :

- Scappaticcio L, Pitoia F, Esposito K, Piccardo A, Trimboli P. Impact of COVID-19 on the thyroid gland: an update. Rev Endocr Metab Disord. 2021 Dec;22(4):803-815. doi: 10.1007/s11154-020-09615-z. Epub 2020 Nov 25. PMID: 33241508; PMCID: PMC7688298.

- Pizzocaro A, Colombo P, Vena W, Ariano S, Magnoni P, Reggiani F, Favacchio G, Mirani M, Lavezzi E, Voza A, Calatroni M, Mazziotti G, Lania A; Humanitas COVID-19 Task force. Outcome of Sars-COV-2-related thyrotoxicosis in survivors of Covid-19: a prospective study. Endocrine. 2021 Aug;73(2):255-260. doi: 10.1007/s12020-021-02758-2. Epub 2021 May 28. PMID: 34047879; PMCID: PMC8161706.

Avec un possible impact sur la mortalité des patients :

“ Our meta-analysis mainly indicates that low FT4 levels may be associated with adverse outcomes (...) and severe COVID-19 (...). Low FT3 serum levels may also increase the degree of severity of COVID-19 (...). Correspondingly, we found that NTIS (...) or low TSH (...) serum levels might also increase the mortality of COVID-19 patients and that patients with severe COVID-19 had a higher probability of low thyroid-related hormone levels (...). The data above may be due to the “cytokine storm” induced by SARS-COV-2 infection, which leads to the development of autoimmune thyroiditis and thus supports the role of FT3 and FT4 as prognostic biomarkers in COVID-19 patients. Also, the severity of SARS-COV-2 might be the dominant determinant of thyroid dysfunction. ”

“ Low FT3 serum levels, low FT4 serum levels and low TSH serum levels may increase the mortality of COVID-19 patients during admission. On the other hand, the higher the severity level of COVID-19, the higher the probability of decreases in the FT3, FT4, TSH levels. ”

Source : Chen Y, Li X, Dai Y and Zhang J (2022) The Association Between COVID-19 and Thyroxine Levels: A Meta-Analysis. *Front. Endocrinol.* 12:779692. doi: 10.3389/fendo.2021.779692

Suivi biologique à 3 mois :

Normalisation des hormones thyroïdiennes avec :

TSH = 4 mUI/l (N),

T4L = 9.7 pmol/l (normale 7 à 16),

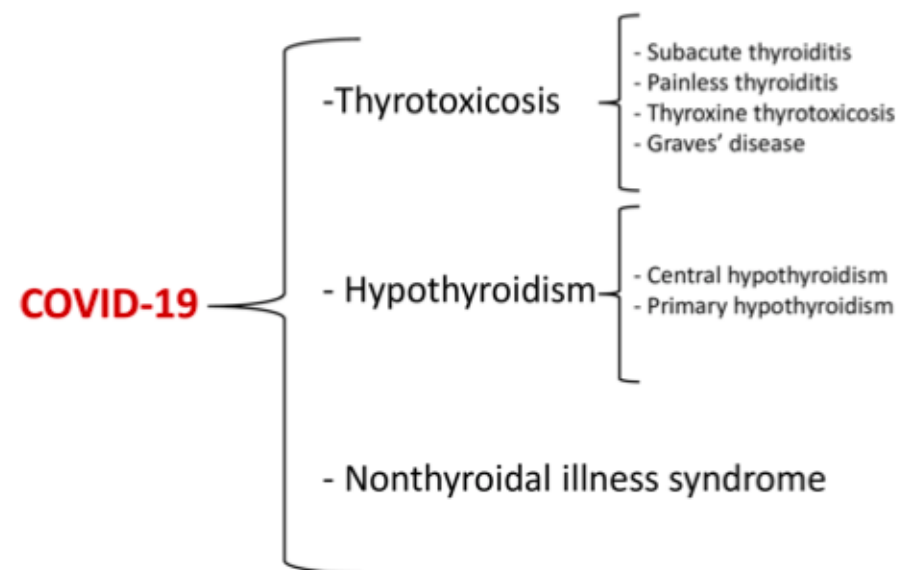
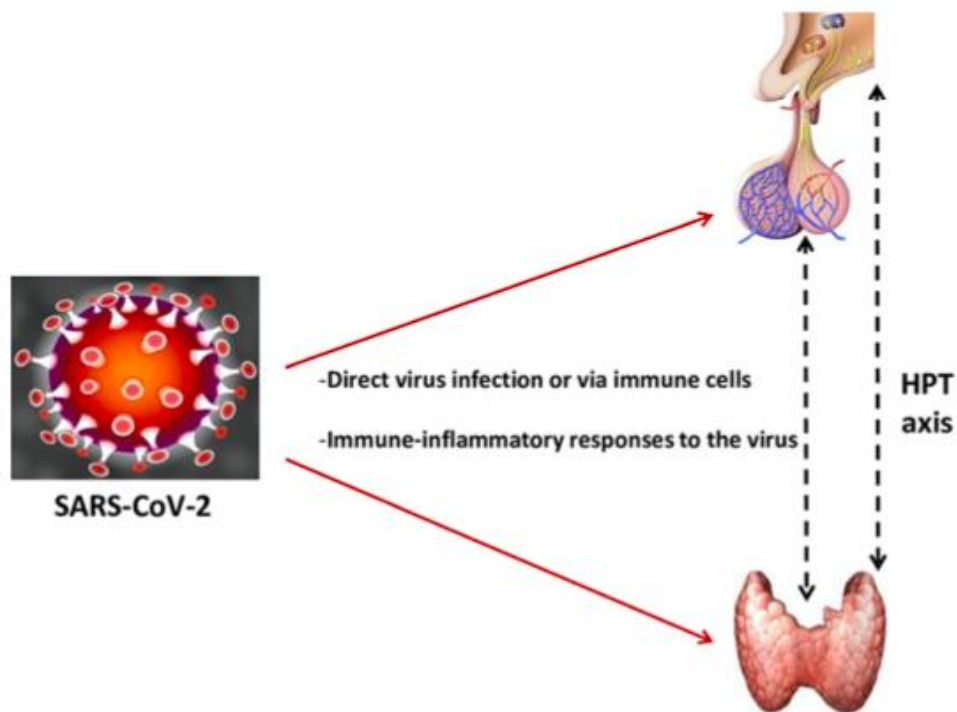
T3L = 5 pmol/l (normale 3.8 à 6)

Conclusion :

Ne pas méconnaître les thyroïdites post-covid à l'heure actuelle ++
Bilan de suivi pour surveiller l'évolution.

Concertation avec endocrinologue ++

Fig. 1 Schematic representing potential mechanisms of hypothalamic-pituitary-thyroid (HPT) axis injury by SARS-CoV-2 infection



Sources :

- Lania A, Sandri MT, Cellini M, Mirani M, Lavezzi E, Mazziotti G. Thyrotoxicosis in patients with COVID-19: the THYRCOV study. *Eur J Endocrinol*. 2020 Oct;183(4):381-387. doi: 10.1530/EJE-20-0335. PMID: 32698147.
- Scappaticcio L, Pitoia F, Esposito K, Piccardo A, Trimboli P. Impact of COVID-19 on the thyroid gland: an update. *Rev Endocr Metab Disord*. 2021 Dec;22(4):803-815. doi: 10.1007/s11154-020-09615-z. Epub 2020 Nov 25. PMID: 33241508; PMCID: PMC7688298.
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Merci de votre attention

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