

# Thyroid Quiz

Dr Tejal Lathia

ITS QUIZ

4.8.2022

An 18-year-old female presents with a painless 1cm mass in the anterior neck region. A biopsy is taken revealing fluid contained within pseudostratified columnar epithelium.  
What is the most likely diagnosis?

- Follicular adenoma
- Branchial cyst
- TG duct cyst
- Thyroid cystitis
- Parotid gland tumour

# Which of the following is incorrect regarding Medullary Thyroid Carcinoma ?

- Overall survival rate for MTC is 50%
- Cabozantinib and Vandetanib are multitarget TKI used for treatment of MTC
- Preop value < 100 pg/ml and post op value of < 5 pg/ml heralds a good prognosis
- Absence of laterocervical lymph node metastasis at diagnosis signifies good prognosis

# Regarding Teprotumumab, which statement is false?

- It is an IGF1 Receptor inhibitor
- Dose in RCT of TT was 10 mg/kg in first infusion and 20 mg/kg in subsequent infusions – total 8 infusions once every 3 weeks for 21 weeks
- Significant improvement in the trial was defined as reduction in proptosis by at least 3 mm and reduction in CAS by 3 points
- 83% in TT vs 10% in placebo arm showed improvement in proptosis

# Which is incorrect regarding thyroid disease in animals?

- Hypothyroidism is quite common in dogs and most frequent cause is lymphocytic thyroiditis
- Most common cause of hypothyroidism in cats is Iatrogenic
- Foals can have a rare congenital hypothyroidism syndrome with musculoskeletal abnormalities due to high nitrate diet of the pregnant mare
- The dose of LT4 is 20-40 mcg/kg body weight for dogs

Dutta et al. Plasma Cell-Free DNA to Differentiate Malignant from Benign Thyroid Nodules

JCEM <https://doi.org/10.1210/clinem/dgab030>

What was the cfDNA cut off level ( in ng/ml) which yielded 100% Ss and 93% Sp to differentiate between benign and malignant cells?

57.9

67.9

77.9

87.9

In a recent study of pesticides in thyroid cancer, which one is NOT implicated in the genesis of thyroid cancer ?

- Paraquat hydrochloride
- Oxyfluorfen
- Carbon Tetrachloride
- Glyphosate

What is the mean drop in TSH in the postprandial state ?

- 0.1
- 0.3
- 0.5
- 0.7



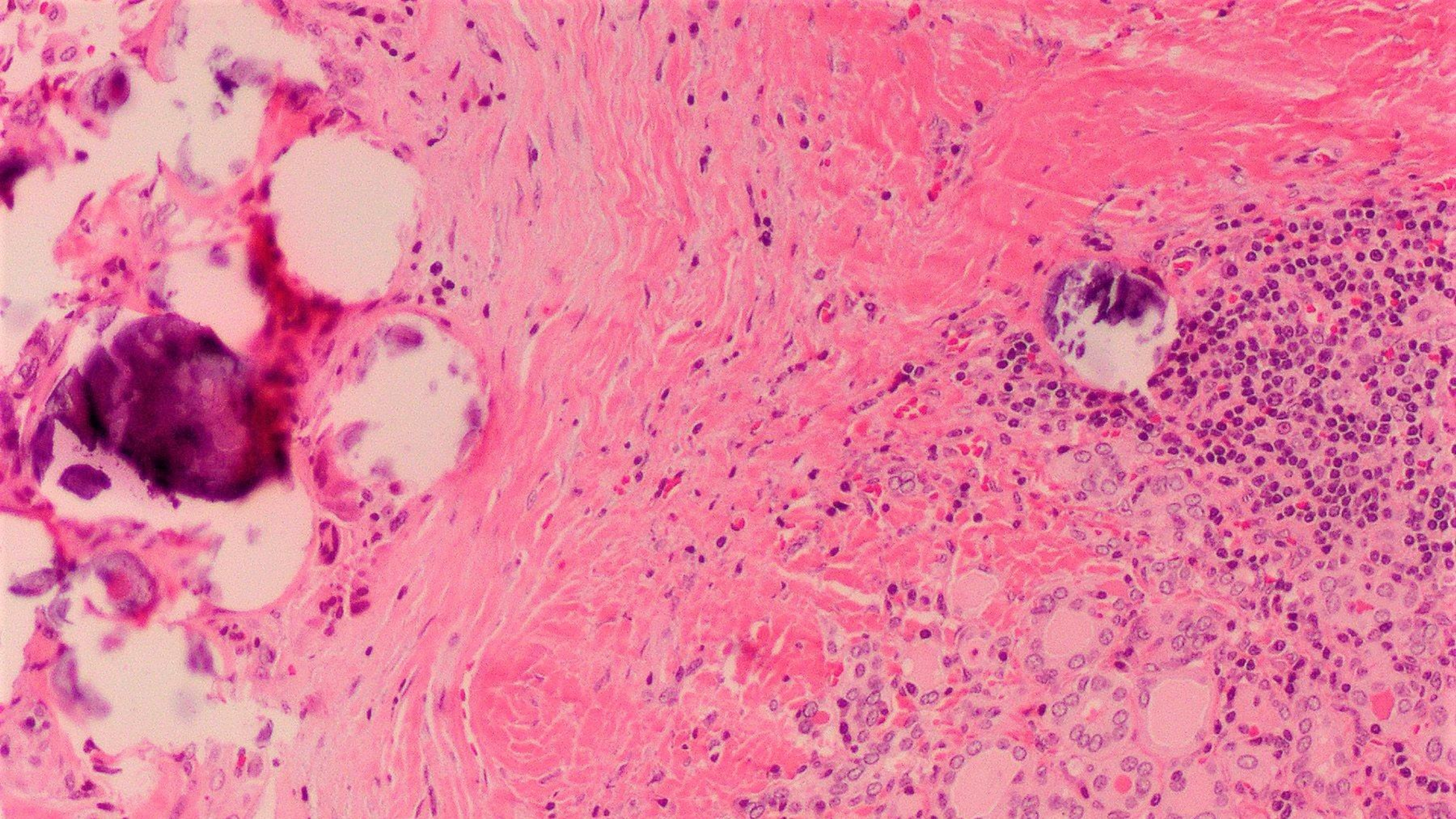
The TRUST trial evaluated the treatment of SCHAT with LT4 in which group of subjects?

- Pregnant women
- Elderly
- Children
- People with CVD

In the Chernobyl nuclear accident in 1986, which was the radionuclide with the greatest impact on increase in thyroid cancer?

- Iodine-131 ( $^{131}\text{I}$ )
- Tellurium-132 ( $^{132}\text{Te}$ )
- Iodine-133 ( $^{133}\text{I}$ )
- Caesium-134 and Caesium-137 ( $^{134}\text{Cs}$  and  $^{137}\text{Cs}$ )







This is diffuse sclerosing variant of PTC, which statement is correct?

1. Extrathyroidal extension and lymph node metastasis are usually not detected
2. Not considered an aggressive type of papillary thyroid carcinoma
3. Patients are usually older than those with classical papillary thyroid carcinoma
4. Presents as a solitary thyroid nodule in which calcifications are infrequent
5. Shows a high 10 year disease specific survival

What is the most common molecular alteration found in the diffuse sclerosing variant of papillary thyroid carcinoma?

1. *ALK* translocation
2. *BRAF* V600E mutation
3. *ETV6* / *NTRK* rearrangement
4. *RAS* mutation
5. *RET* / *PTC* rearrangement

Answer key

# Anatomy / Physiology

- **An 18-year-old female presents with a painless 1cm mass in the anterior neck region. A biopsy is taken revealing fluid contained within pseudostratified columnar epithelium.**
- **What is the most likely diagnosis?**

**Thyroglossal duct cyst**

# Which of the following is incorrect regarding Medullary Thyroid Carcinoma ?

- Overall survival rate for MTC is 50%
- Cabozantinib and Vandetanib are multitarget TKI used for treatment of MTC
- **Preop value < 100 pg/ml and post op value of < 5 pg/ml signifies a good prognosis**
- Absence of laterocervical lymph node metastasis at diagnosis signifies good prognosis



In the context of the RCT of Teprotumumab, which statement is false?

- It is a IGF1 Receptor inhibitor
- Dose of TT was 10 mg/kg in first infusion and 20 mg/kg in subsequent infusions – total 8 infusions once every 3 weeks for 21 weeks
- 83% in TT vs 10% in placebo arm showed improvement in proptosis
- **Significant improvement was defined as reduction in proptosis by at least 3 mm and reduction in CAS by 3 points**

# Which is incorrect regarding thyroid disease in animals?

- Hypothyroidism is quite common in dogs and most frequent cause is lymphocytic thyroiditis
- Most common cause of hypothyroidism in cats is Iatrogenic
- Foals can have a rare congenital hypothyroidism syndrome with musculoskeletal abnormalities due to high nitrate diet of the pregnant mare
- The dose of LT4 is 2-4 mcg/kg body weight for dogs

Dutta et al. Plasma Cell-Free DNA to Differentiate Malignant from Benign Thyroid Nodules

JCEM <https://doi.org/10.1210/clinem/dgab030>

What was the cfDNA cut off level ( in ng/ml) which yielded 100% Ss and 93% Sp to differentiate between benign and malignant cells?

57.9

67.9

77.9

87.9

# Which pesticide has not been implicated in the genesis of thyroid cancer ?

- Paraquat hydrochloride
- Oxyfluorfen
- Carbon Tetrachloride
- Glyphosate

What is the mean drop in TSH in the postprandial state ?

- 0.1

- **0.3**

- 0.5

- 0.7

The TRUST trial evaluated the treatment of SCHAT with LT4 in which group of subjects?

- Pregnant women
- **Elderly**
- Children
- People with CVD

This is diffuse sclerosing variant of PTC, which statement is correct?

1. Extrathyroidal extension and lymph node metastasis are usually not detected
2. Not considered an aggressive type of papillary thyroid carcinoma
3. Patients are usually older than those with classical papillary thyroid carcinoma
4. Presents as a solitary thyroid nodule in which calcifications are infrequent
- 5. Shows a high 10 year disease specific survival**

What is the most common molecular alteration found in the diffuse sclerosing variant of papillary thyroid carcinoma?

1. *ALK* translocation
2. *BRAF* V600E mutation
3. *ETV6 / NTRK* rearrangement
4. *RAS* mutation
5. ***RET / PTC* rearrangement**