Clinical Chemistry Educational Initiatives

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Reach of Clinical Chemistry

Scientific Core

Educational Value

Accessibility
• Clinical Chemistry Trainee Council (CCTC)
• NEJM Knowledge+/AACC Learning Lab
A patient presents with the following plasma laboratory values: BUN 6 mg/dL, creatinine 6.7 mg/dL, sodium 127 mEq/L, potassium 4.2 mEq/L, sodium x 273 mEq/L. The urine laboratory values are as follows: sodium 465 mEq/L, creatinine 41 mEq/L. Physical examination reveals normal mucous membranes and no signs of edema. What is the most likely diagnosis?

Question provided by Robert Narwel, PhD.


a. Diabetes insipidus
b. Renal tubular lesion
CCTC Registrants Growth

Total Registrants

CCTC Registrants*

<table>
<thead>
<tr>
<th>Country</th>
<th>Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>2590</td>
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<tr>
<td>India</td>
<td>926</td>
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<tr>
<td>Egypt</td>
<td>798</td>
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<tr>
<td>United Kingdom</td>
<td>671</td>
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<tr>
<td>Brazil</td>
<td>571</td>
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<tr>
<td>China</td>
<td>373</td>
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<td>Philippines</td>
<td>330</td>
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<td>Spain</td>
<td>275</td>
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<td>Pakistan</td>
<td>193</td>
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<td>Mexico</td>
<td>167</td>
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</tbody>
</table>

*Top 10 Country Membership
To register:

www.traineecouncil.org
Traditional Learning

Versus

Adaptive Learning
<table>
<thead>
<tr>
<th>Structure of the Thyroid Gland and Thyroid Hormones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation of Thyroid Hormone Synthesis</td>
</tr>
<tr>
<td>Transport and Action of Thyroid Hormones</td>
</tr>
<tr>
<td>Initial Evaluation of Thyroid Disease</td>
</tr>
<tr>
<td>Hypothyroidism</td>
</tr>
<tr>
<td>Thyrotoxicosis</td>
</tr>
<tr>
<td>Thyroid Cancer</td>
</tr>
<tr>
<td>Thyroid Hormones in Nonthyroidal Illness</td>
</tr>
<tr>
<td>Normal Physiological Changes in Thyroid Function During Pregnancy</td>
</tr>
<tr>
<td>Thyroid Disease During Pregnancy</td>
</tr>
<tr>
<td>Thyroid Hormone and Autoantibody Measurement Methods</td>
</tr>
</tbody>
</table>

- Structure of the Thyroid Gland and Thyroid Hormones
  - Recall the Shape of the Thyroid Gland
  - Identify the Location of the Thyroid Gland
  - Define Heterotopic Thyroid Tissue
  - Describe the Prevalence of Individuals With Heterotopic Thyroid Tissue
  - Recall the Population in Which Heterotopic Thyroid Tissue is Most Common
  - Rank Selected Organs in Terms of Blood Supply
  - List the Two Main Thyroid Cell Types
  - List the Principal Hormones Secreted by the Thyroid Gland
  - Describe the Primary Role of Thyroid Follicular cells
  - Describe the Primary Role of Thyroid Follicular Cells
  - Identify the Functional Unit of the Thyroid Gland
  - Recognize the Cellular Composition of Thyroid Follicles
  - Define the Location of Follicular Cells Within the Thyroid Follicles
  - Describe the Cortisol
  - List the Stages in Thyroid Hormone Synthesis
  - List the Amino Acid That Comprise the Backbones of Thyroid Hormones
  - Recognize the Structure of T4
  - Remember the Functions of T3
Which set of laboratory values is consistent with subclinical hyperthyroidism?

Click the answer you think is right.

- FT4 within the reference interval and decreased TSH
- TSH within the reference interval and elevated FT4
- TSH within the reference interval and decreased FT4
- FT4 within the reference interval and elevated TSH

Do you know the answer?

- I know it
- Think so
- Unsure
- No idea
Reverse T3 (rT3) is formed by deiodination of T4 by Type 3 deiodinase (D3). rT3 is typically considered an inert metabolite but it may have some nonclassical activity. As an adaptive response to illness, rT3 concentrations are increased in nonthyroidal illness in order to decrease the amount of T4 converted to T3.
Utility of AACC Learning Lab

- A life-long personalized learning tool
- Assess competency (Individual & institutional-based)
- Preparation for certification
- Obtain CE and CME credits
- Stay current in an ever expanding field
- Designed for laboratory professionals at all levels in hospitals, commercial labs, and the IVD industry
- Multilingual
As Representatives of National Societies
You Can Help by:

• Disseminate information about these programs locally and regionally

• Encourage your trainees to take advantage of the CCTC, a free resource

• Incorporate these materials in your local training programs

• Publicize the IFCC Newsletter’s articles describing these features among your members