

A 60 year-old man with a 30 year old smoking history presents to his physician with complaints of cough,fatigue,and a recent 9 kg weight loss.X-Ray of chest reveals the following picture(Image-1).Biopsy of the mass reveals the following histopathology as shown on "Image 2".On physical examination,the patient has some cachexia but normal skin turgor, no edema or jugular venous distension and no orthostatic hypotension.

Relevant laboratory findings are as follows:

Serum:

Sodium: 128 mEQ/L , Potassium: 4 mEQ/L , BUN- 8 mg/L , Glucose: 90 mg/L

Urine:

Sodium: Normal , Osmolality- 610 mOsm /kg H₂O



Image-1

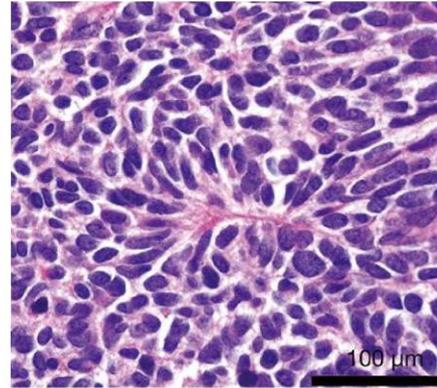


Image-2

1. What is your Diagnosis ?

Answer-

Paraneoplastic SIADH, due to small cell carcinoma of lung.

(Or, Small cell carcinoma of lung, complicating into paraneoplastic SIADH.

2. How is the etiology of the condition determined?

Answer-

- Lab values show hyponatremia.
- Next we assess the volume status based on physical findings.
- Physical exam shows normal skin turgor, no edema, jugular venous distension and orthostatic hypotension.
- Hence it is a case of euvolemic hyponatremia.
- Urine osmolality is >100 which means urine is being concentrated as excess water is being reabsorbed.
- Euvolemic Hyponatremia in the presence of concentrated urine points towards SIADH. (We can also measure plasma osmolality. Low plasma osmolality and Na, high urine

osmolarity
and Na typically points towards SIADH).

- As mentioned in history patient is 60 years old (cancer risk increases with age) with 30 year smoking history. Patient also complains of cough, fatigue and significant weight loss pointing towards carcinoma of the lung.
- The PA radiograph shows a large left mid zone mass which can be localized to the posterior of the chest by using the “Silhouette sign”. The left heart border remains visible indicating that the mass cannot be anterior. Some of the left hilar vessels remain visible (hilum overlay sign) indicating that the mass is not centered at the hilum. The mass therefore must be located posteriorly within the apical portion of the left lower lobe.
- Histopathology shows tumor composed of nests of small cells with fine granular chromatin nuclei, inconspicuous nucleoli, and scarce cytoplasm. Hence the histopathology picture is typical of Small Cell Carcinoma of the Lung. Interestingly, 70% of SIADH patients have small cell ca of lung.

3. How would you treat this patient?

Answer-Treatment consists of tumor resection. If evidence of SIADH persists or resection not possible treatment includes restriction of free water intake and if needed, use of ADH antagonists like Tolvaptan or Conivaptan.

