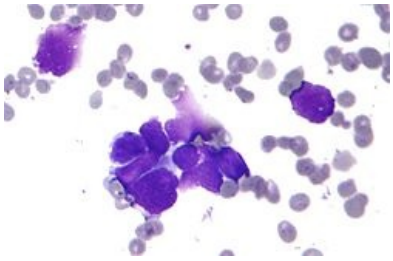
Paraneoplastic syndrome

PTHrp:



The term paraneoplastic syndrome refers to the clinical manifestations of a tumor that are conditioned by its presence, but manifest in a tissue in which the tumor is not present.

Ectopic hormone production



Small-cell (oat-cell) lung cancer – cytology

Tumors may exhibit the production of hormones, or functionally and structurally similar agents, even though they did not arise in tissue with physiological hormonal activity.

- Erythropoietin – its source can be tumors of the kidneys and liver, the manifestations then result from the physiological effect of erythropoietin: polycythemia
- Serotonin – produced by GIT tumors formed by the precursors of mucosal neuroendocrine cells. Serotonin has a vasoconstrictive effect and can cause hypertension. In some cases, it causes **carcinoid syndrome** in patients with intestinal carcinoid (fibrous thickening of the right heart valves, asthma, diarrhea and paroxysmal erythema of the face and neck (so-called flush)).
- ACTH – typically the source is small-cell (oat-cell) lung cancer, or thymic cancer. It causes paraneoplastic Cushing's syndrome (facial-type obesity, moon face, stretch marks, hypertension, hyperglycemia, virilization in women and amenorrhea).
- PTHrP – a parathyroid related peptide, also produced by small-cell lung cancer. It causes hypercalcemia.

Cachexia as a part of paraneoplastic syndrome

Cachexia occurs in **up to half of patients with cancer**. In addition to visible weight loss and muscle weakness, it is also manifested by a weakening of immune reactions and anorexia.

The pathogenesis of tumor cachexia is not yet exactly known. The possibility of initiating gluconeogenesis by the tumor due to its increased glucose utilization, which leads to the breakdown of proteins and lipids to form glucose, is being considered. The condition cannot be affected by the administration of nutrients and vitamins. Many cytokines are probably involved in the whole process. TNF-α, IL-1β, and IFN-γ are of great importance.

other manifestations of tumors

- Pathological bone fractures
- Thrombosis and embolism
- Anemia
- Bleeding diathesis
- Pain
- DIC

References

Related articles

- Paraneoplastic disability / PGS / diagnostics
- Migrating thrombophlebitis

Sources

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