

A one-year-old girl is brought to the emergency department (ED) by her mother due to a one-day history of fever and drowsiness. The child has been irritable since yesterday. On examination, she is hypothermic, lethargic and has nuchal rigidity. She flexes her hips when her neck is flexed. She appears septic, and large petechial and purpuric lesions are developing on her body. In the ED, she suddenly becomes hypotensive. Despite aggressive fluid and antibiotic resuscitation, the child dies. What will most likely be revealed as the cause of death during the autopsy of this child?

- ☐ A. Myocarditis and heart failure
- ☐ B. Acute respiratory distress syndrome
- ☐ C. Bone marrow failure
- ☐ D. Adrenal gland failure
- ☐ E. Acute renal failure
- ☐ F. Thyroid gland destruction
- ☐ G. Fulminant hepatic failure

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- ☐ A. Myocarditis and heart failure [11%]
- ☐ B. Acute respiratory distress syndrome [14%]
- ☐ C. Bone marrow failure [2%]
- ☒ D. Adrenal gland failure [60%]
- ☐ E. Acute renal failure [9%]
- ☐ F. Thyroid gland destruction [1%]
- ☐ G. Fulminant hepatic failure [4%]

[Proceed to Next Item](#)

Explanation:

User Id: 

In an infant with meningococemia, watch out for Waterhouse-Friderichsen syndrome, which is characterized by a sudden vasomotor collapse and skin rash (i.e., large purpuric lesions on the flanks) due to adrenal hemorrhage. Fulminant meningococemia can occur after a meningococcus infection, and approximately 10-20% of infants present with vasomotor collapse, large petechiae and purpuric lesions. The condition carries an almost 100% mortality.

(Choice A) In meningococemia, myocarditis does not occur. It can affect the joints, skin and brain, but the heart is spared.

(Choice B) Acute respiratory distress syndrome (ARDS) generally does not present in such a dramatic fashion. Rather, it presents with signs of hypoxia and infiltrates on chest x-rays. It is a gradual process where oxygenation becomes increasingly difficult. Most individuals require mechanical ventilation.

(Choice C) The bone marrow is not affected by meningococcus. Individuals may show leukocytosis with a leftward shift.

(Choice E) Meningococemia does not directly affect the kidneys. Renal failure may be

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(Choice E) Meningococemia does not directly affect the kidneys. Renal failure may be secondary to sepsis and vasomotor failure, wherein severe vasomotor compromise results in decreased renal perfusion.

(Choices F and G) Meningococemia usually does not cause destruction of the thyroid or liver.

Educational Objective:

In an infant with meningococemia, watch out for Waterhouse-Friderichsen syndrome, which is characterized by a sudden vasomotor collapse and skin rash due to adrenal hemorrhage.

Time Spent: 2 seconds

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