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# Forgotten Foreigners

On one of my first nights in the Women's Emergency Room, I had a 21 yo nonpregnant female come in with the complaint of three weeks of vaginal bleeding. In the past, her menses were regular, and the only other associated symptom she had was a strong foul body odor coming from her vagina, despite daily showers. Her vital signs were unremarkable. On physical exam, the first thing I noticed was a tampon sitting in the introitus. On pelvic exam I was surprised to find a black foreign object sitting on the surface of her cervix, which turned out to be a forgotten tampon. Her cervix was incredibly inflamed, and, according to the nurse because of my inability to smell from being sick, the retained tampon was the worst thing she had ever smelled during her career as a nurse. For someone who had a retained foreign object for that long, I was surprised at her benign presentation and it made me wonder if someone had come into a resuscitation booth unconscious, presenting with signs of staphylococcal toxic shock syndrome, if I, or someone, would find the source of infection if it was coming from a retained object in the vaginal vault.

The incidence of menstrual-related TSS has declined from 91 percent (between 1979 and 1980) versus 59 percent (between 1987 and 1996). One of the reasons why this occurred was due to the recall of rayon-containing products and highly absorbent tampons from the public market.

Pathogenesis:

- **TSS-1**: an exotoxin. Although not known why, it is associated with 90-100% of menstrual cases of TSS.
- **Superantigens**: S. aureus exotoxins act as superantigens, which cause a release of a massive amount of cytokines by activating an incredible amount of T-cells at the same time.

Clinical Manifestations:

- Fever
- Hypotension – a non-hydrostatic leakage of fluid from the intravascular space to the interstitium that can be unresponsive to IVFs and can persist for several days
- Skin manifestations (diffuse, red macular rash involving the palms and soles) – the rash can be fleeting. It can include conjunctival-scleral hemorrhage, ulceration of the mucous membranes, and non-pitting edema. A pruritic maculopapular rash is a late finding (1-2 weeks), but an even later finding is desquamation of the skin.
- Others: Multiorgan system involvement. It can affect every organ. For example, an increase in serum CPK can be a laboratory finding. Interestingly, a leukocytosis may not be seen.

Confirming your diagnosis:

1. **Fever >38.9C**
2. **Hypotension**
3. **Diffuse erythroderma**
4. **Desquamation, which occurs 1-2 weeks after onset of illness**

5. **Involvement of at least 3 organ systems**
6. (Supporting evidence) Negative culture results of blood, throat, or CSF pathogen/Serologic tests for Rocky Mountain spotted fever, Leptospirosis, or measles.

Empiric Treatment:

- **Clindamycin** (900mg IV q8hrs for adults and 25-40mg/kg/day in 3 divided doses)
- **Vancomycin** (15-20 mg/kg/dose q8-12hrs for adults-not exceeding 2g/dose and for children, 40mg/kg/day IV in 4 doses)

References / Further Reading

- Staphylococcal Toxic Shock Syndrome. Vivian H Chu. Uptodate
- http://www.ncbi.nlm.nih.gov/pubmed/23394954
- http://www.ncbi.nlm.nih.gov/pubmed/19577335
- http://lifeinthefastlane.com/toxic-shock-syndrome/