# Fournier's Gangrene Mimicking a Burn

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# Background

- Fournier's gangrene is a type of necrotizing fasciitis that invades the planes of the perineal region
- Rapidly progressive
- Rare - occurs in 1 in 250,000 people
- Mortality rate - 24 - 34%
- More common in males and associated with comorbidities such as diabetes mellitus, hypertension, malignancy, and alcohol abuse
- Can be mistaken for other pathologies like hematoma, phlebitis, cellulitis, or septic arthritis

# Literature Review: Case 1

- Fournier's gangrene in a patient after third-degree burns
- 65-year-old man with hx diabetes meliitus presented with third-degree burns due to a recent suicide attempt
- 4 × 5 cm ulcerated lesion on the penis and scrotum with a brown, seropurulent, exudative, and mousy odor
- Treated with IV ciprofloxacin and aggressive debridement of the wound
- On follow-up 2 months later, a significant improvement in the wound was noted

Iavazzo et al. Journal of Medical Case Reports 2009, 3:7264

# Literature Review: Case 2

- Necrotizing soft tissue infections following a scald burn of the lower limb
- 64-year-old female with hx HTN and obesity presented 6 days after a scald burn of the left leg (hot water) resulting in second and third degree burns
- Subcutaneous fat necrosis was observed extending superiorly
- Emergency surgical debridement was conducted and patient started on IV piperacillin/tazobactam, amikacin, and Linezolid
- Patient was returned to the operating room one day later due to worsening extension of wound
- The infection was found to have extended to the muscles causing, severe necrosis, confirming the diagnosis of necrotizing myofasciitis.
- Above knee amputation was performed and the patient was discharged to a rehabilitation centre 45 days later

Alsharari et al. Ann Burns Fire Disasters. 2013 Sep 30; 26(3): 158–161

# Literature Review: Case 3

- A misdiagnosed burn: necrotising fasciitis in an elderly patient
- 91-year-old man with no significant medical hx found unresponsive in his bed
- Had sustained a laceration over the dorsum of his forearm after a recent fall 1 week prior
- Initial appearances were innocuous, review of the wound by the plastic surgeons led to the diagnosis of a full-thickness burn (no continuity of doctors to recognize early clinical change)
- Rapid clinical deterioration ensued, diagnosis of necrotising fasciitis was made
- Urgent debridement was conducted however later died from sepsis (3 weeks after admission)

Vijayan et al. BMJ Case Rep 2013

# Case - Subjective

CC: Right gluteal fold wound x 1 day

HPI: 77 y/o male, visiting nurse placed heating pad for pain, developed redness and blistering the day after

PMH: CAD, HTN, HLD, Parkinson’s disease, BPH

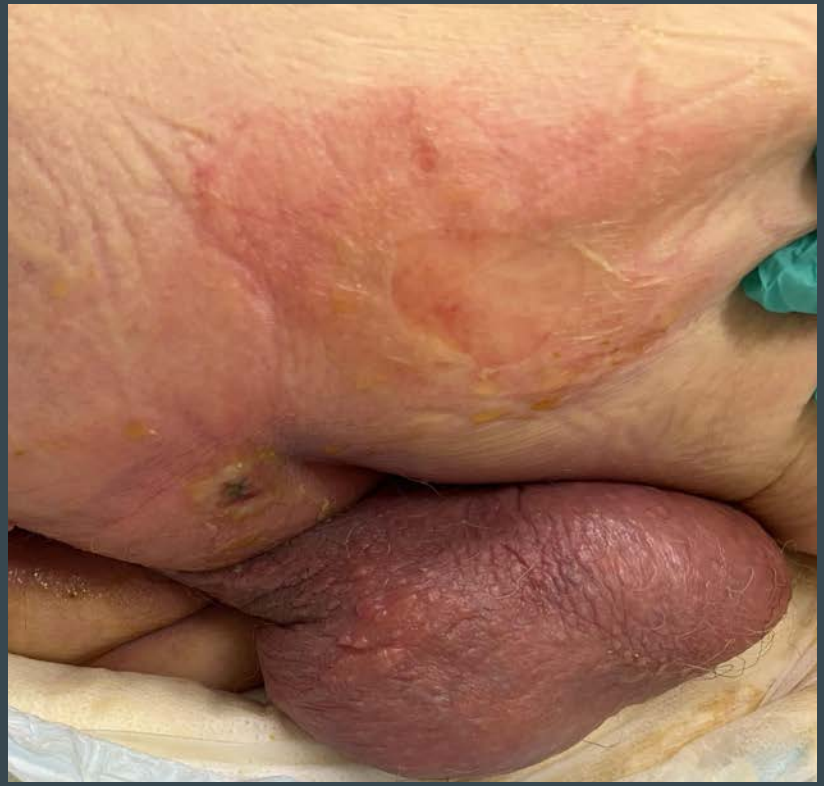
PSHx: Coronary artery stent

Associated Symptoms: AMS, fever (subjective)

# Case-Objective

Vitals: T 100.1 degrees F, BP 122/70 mmHg, P 98, RR 24, O2 sat  91% on room air

PE:
Gen: ill-appearing, diaphoretic, short of breath
Skin: bilateral perineum and right gluteal folds appeared erythematous with desquamation and one fluid filled blister as well as one ruptured blister. The surrounding skin was warm to touch consistent with a second degree burn, with no fluctuance or purulence.



# Case- Labs

**Labs:**

- WBC: 29.1 K/uL (reference: 3.8-11.0 K/uL),
- Lactate 2.15 mmol/L (reference: 0.7-2.00 mmol/L)
- C-reactive protein of 13.0 mg/dL (reference: <0.9 mg/dL)

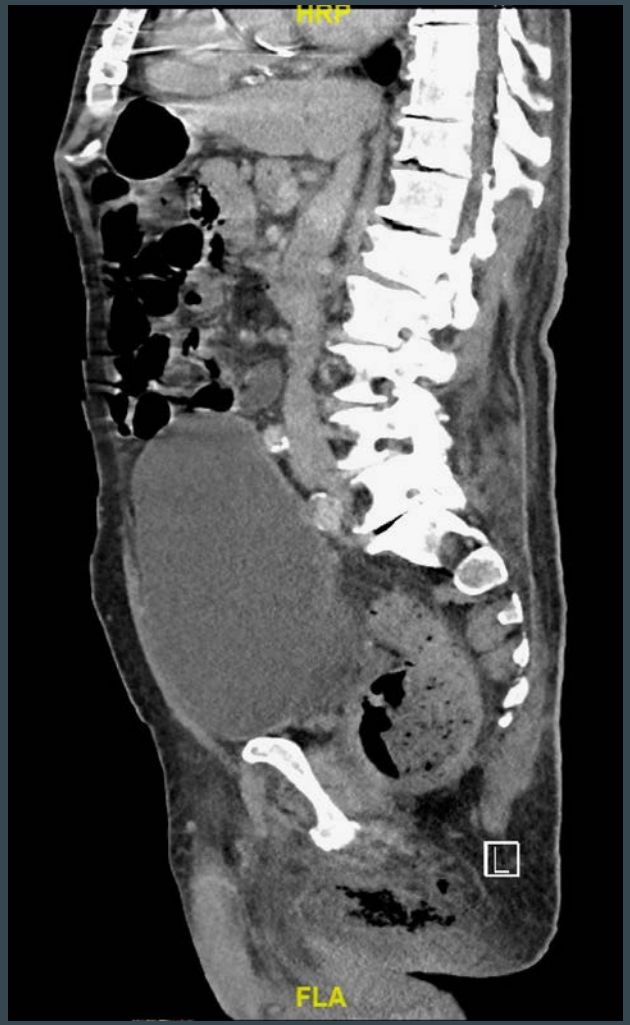
Laboratory Risk Indicator for Necrotizing Fasciitis (LRINEC) score 3 (<50% risk of nec fasc)

| Laboratory parameter | LRINEC points |
|---|---|
| **C-reactive protein (mg/l)** | |
| < 150 | 0 |
| ≥ 150 | 4 |
| **Total white blood cell count (μ l)** | |
| < 15 | 0 |
| 15-25 | 1 |
| >25 | 2 |
| **Hemoglobin (g/dl)** | |
| >13.6 | 0 |
| 11-13.5 | 1 |
| < 10.9 | 2 |
| **Sodium (mmol/l)** | |
| ≥ 135 | 0 |
| < 135 | 2 |
| **Creatinine (mg/dl)** | |
| ≤ 1.6 | 0 |
| >1.6 | 2 |
| **Glucose (mg/dl)** | |
| ≤ 180 | 0 |
| >180 | 1 |

# Initial Management

- Initial suspicion of burn
- Transferred to burn center initiated and CT scan obtained during waiting period
- CT results finalized after transfer

**CT abdomen/pelvis:** numerous abnormal foci of air involving the tissues of the perineum extending into the proximal right thigh consistent with Fournier's gas gangrene



# Management

- At accepting facility patient was taken for urgent surgical debridement
- Started on Vancomycin, Zosyn, Clindamycin
- Wound cultures revealed *Escherichia coli* and *Enterococcus avium* susceptible to Vancomycin and Zosyn → Clindamycin was discontinued
- Patient was stabilized and discharged on post op day 12
- Seen in an outpatient clinic with an almost healed wound (5mm) at 5 weeks post discharge

# Takeaways

- Necessary to have a high clinical suspicion of necrotizing fasciitis
- It is vital to recognize the innocuous presentation of necrotizing fasciitis
- Imaging and rapid progression of the lesion can clue the physician into the presence of this disease
- Prompt surgical debridement and initiation of broad spectrum antibiotic therapy is essential in reducing mortality -
    - if only have clinical suspicion it is better to take the patient into the OR rather than wait for results as time is of the essence

# References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5) Wong CH, Khin LW, Heng KS, Tan KC, Low CO. The LRINEC (Laboratory Risk Indicator for Necrotizing Fasciitis) score: a tool for distinguishing necrotizing fasciitis from other soft tissue infections. Crit Care Med. 2004 Jul;32(7):1535-41. doi: 10.1097/01.ccm.0000129486.35458.7d. PMID: 15241098.

# Questions?