Approach to managing non-healing malignant wounds – overview of care

1. **Nutritional support – maintain caloric requirement:***
   - 30 to 35 cal/kg/day
   - Protein requirement: 1.5 to 2 g/kg/day

2. **Is the malignant lesion under curative treatment?***
   - **Yes**: Monitor and maintain woundcare along with the chosen oncotherapy - Chemotherapy, Radiotherapy, Surgery
     - Additional/timed dose of the regular ongoing analgesic (immediate release formulation) - at least 30-45 minutes prior.
     - Soak dressing with NS before peeling it off the wound. Soak with local anesthetic solution - 15 minutes, if pain is severe.
     - Use non-adhesive dressing - with sterile paraffine or Vaseline Gauze - as the closest layer to wound
     - Evaluate the wound for additional contributors, treat e.g. infection.
     - Follow NCG Pain management guidelines using the WHO analgesic ladder

   - **No**: Pain
     - **Is pain only when dressing? - incident pain***
       - Soak dressing with NS before peeling it off the wound. Soak with local anesthetic solution - 15 minutes, if pain is severe.
       - Follow institution antibiotic protocols.
       - If frank pus - culture and sensitivity & appropriate systemic antibiotics.
       - Daily wound dressing with a local antibiotic - finely powdered Metronidazole is used conventionally.
       - If infection is present - follow institution antibiotic protocols.

3. **Wound Exudates - Assess for infection**
   - **Yes, there is evidence of infection**
     - If frank pus - culture and sensitivity & appropriate systemic antibiotics.
     - Daily wound dressing with a local antibiotic - finely powdered Metronidazole is used conventionally.
     - Follow institution antibiotic protocols.

   - **No evidence of infection - comfort care**
     - Multiple layer of pads of dressing. Change outer layers when required.
     - Ready, commercial - use sanitary napkins shaped to suit the need; Foam or Alginate dressing materials, Tegaderm to prevent leakage etc. Consider use of Negative-pressure, by using a portable suction apparatus.

4. **Foul smell - evaluate for cause**
   - Infection in a malignant wound commonly is anaerobic. Daily dressing with monitored Oral Metronidazole therapy follow SNIFF Protocol - described below

5. **Malignant lesion is beyond curative treatment**
   - **Nutritional support – maintain caloric requirement:***
     - 30 to 35 cal/kg/day
     - Protein requirement: 1.5 to 2 g/kg/day
   - **Aim of Supportive care - relief from pain & discomfort - smell, exudate, bleeding etc.***
   - Protect the periwound skin from maceration with emollients
   - With emollients
   - Follow NCG Pain management guidelines using the WHO analgesic ladder

6. **Infection in a malignant wound commonly is anaerobic. Daily dressing with monitored Oral Metronidazole therapy follow SNIFF Protocol - described below**

7. **SNIFF Protocol**
   - **S**: Soak dressing with NS before peeling it off the wound. Soak with local anesthetic solution - 15 minutes, if pain is severe.
   - **N**: Non-adhesive dressing - with sterile paraffine or Vaseline Gauze - as the closest layer to wound
   - **I**: Evaluate the wound for additional contributors, treat e.g. infection.
   - **F**: Follow NCG Pain management guidelines using the WHO analgesic ladder
   - **F**: Follow institution antibiotic protocols.

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Approach to managing non-healing malignant wounds – Specific Concerns – Bleeding, Maggots and Fistulae

Malignant lesion beyond curative treatment - Continued...

Aim of Supportive care - Relief from pain & discomfort - smell, exudate, bleeding etc.

Bleeding

Mild Bleeding - Local measures
- Local pressure with dressing pad for 10 minutes
- Local agents - Sclerosing agents, Silver nitrate, Astringents, Sulfafate, diluted Alum solution
- Vasoconstriction - Adrenaline Gauze (1:1000) compression for 10 minutes
- Non-adherent dressing E.g. Paraffin/Vaseline gauze dressing
- Avoid daily dressing and switch to dressing products that can be used for few days E.g. Calcium Alginate dressing
- Review dressing style
- Local measures as listed above

Moderate to severe bleeding
- Consider - Radiotherapy/Surgical Interventions
- Anti-hemorrhagic and fibrinolytic antagonists, Ethamsylate and ranexamic Acid
- Systemic measures
- Treat with Vitamin K - if appropriate
- Review / modify ongoing anti-thrombotic agents

Catastrophic terminal bleeding
- Activate Crisis management Plan for Bleeding - Activate NCG guidelines for bleeding when catastrophic in a terminally ill patient

Maggots
- Remove the infestation by one of the methods described under Nursing care - below
- Daily dressing with local antibiotics and systemic antibiotics when necessary

Fistula - It is an indicator of aggressive tumour, risk of bleed higher.
- Comprehensive, conservative care as described below - an extension algorithm for VVF/ VRF
Approach to managing non-healing malignant wounds - Vesico-vaginal / Recto-vagina; / Entero-cutaneous Fistula

**Patients with pelvic malignancy, presenting with leakage of urine, faeces and body fluids**

**Aim – reduce symptom distress & improve function and comfort**

**History, Physical examination, Clinical Assessment suggestive of Fistula – VVF as a prototype**

**Symptom control**

- **Pain, Malodour**
  - Start Medications (A) and follow relevant palliative care guidelines

- **Itching, excoriation**
  - Prevent excoriation / protect skin
  - Vegetable oil, barrier creams (Zn containing), Karaya protective layer, emollients, antifugals

**Recognize and manage distresses**

- **Nursing Care (B) and Supportive Care (C) - as listed below**

**Manage effluent flow**

- **Treat infection as per the institution protocol**
  - Diapers, Gamgee, absorbent gauze/gel-based padding, devices for incontinence

**Arrest tumour necrosis by anaerobes**

- **SNiff Ladder protocol - described below**

**Is there stigma, social isolation, care-giver burden**

- **Communications, education, psycho-social support to patient and family**

**Is VVF amenable to Conservative approach to facilitate healing?**

- **Yes** - The fistula is long and narrow, < 1 cm in size; not > 3 weeks of onset; and leakage decreases with catheterisation
  - Continuous Bladder Drainage (CBD)
  - High chances of healing if fistula is < 5 mm
  - CBD + fulguration of the fistula tract; or injection of fibrin glue / platelet-rich plasma

- **No** - The fistula is > 3 cm in size, is secondary to RT, with extensive scar tissue, and onset is >6 weeks.
  - Percutaneous nephrostomies in highly selected patients.
  - VVF Repair if within 12 weeks of diagnosis; not inflammed, infected, or necrosed - Precautions listed below

**Aim** - reduce symptom distress & improve function and comfort

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A. Medicines for managing non-healing malignant Wound

**Malodour - Utilise SNIFFF Ladder Protocol** for Oral Metronidazole therapy

- Used in patients at high-risk of recurrent malodour/ inadequate wound care/ risk of developing fistula
- Start with a course of oral metronidazole 400 mg thrice daily for 7 days. Simultaneously, teach low-cost, home-based wound care and hygiene awareness.
- On follow-up, rate the severity of smell to titrate metronidazole dosage – Nil, Faint, Foul or Forbidding
  - Smell is - Nil or faint smell
    - Continue metronidazole 200 mg OD as maintenance
  - Smell is - Foul (definite unpleasant smell)
    - Add 400 mg thrice daily metronidazole for 7 days. Then continue 200 mg once daily
  - Smell is - Forbidding (unbearable smell/smell makes it difficult to provide care)
    - Add 400 mg P.O. thrice daily for 2 weeks and maintain on 200 mg P.O twice daily.

- Review and place the patient on the SNIFFF ladder
- Consider maintaining on 200 mg P.O once daily - when patient is at high-risk, incidences of recurrent malodour, and/or when inadequacies in wound care is expected.

1. **Managing incident Pain when dressing:**
   - Time the analgesics appropriately - Incident pain can be managed by administering the rescue dose of ongoing analgesic ½ hour before dressing or by timing the dressing ½ hour after analgesic dose.
   - Off-label use of Ketamine (injectable formulation) given as drops sublingually- 0.25-0.5mg/kg, 15 minutes before dressing.
   - Wet the dressing fully before removing it from the wound. Removing a dry dressing causes additional injury, bleeding and pain. Non-adherent dressing like paraffin gauze can less painful on removal. But they cannot be used in the presence of active infection.
   - Anaesthetising the wound bed with gauze soaked in diluted Bupivacaine reduces pain. Wait for 15 minutes & then dress the wound
   - Metronidazole powder may be made as a paste with lignocaine jelly for application over the wound - to minimise the surface pain.

2. **Tips for Home management of malignant wound:**

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1 References


Aim for clean (not sterile) technique – for non-healing malignant wounds

- **Preparing Saline at home:** can be prepared at home by adding one pinch of salt in one glass of water or two teaspoon of salt in one litre of water and boiling it in steel vessel, covered and stored for the day. The saline prepared is for use for that day only. Coled and used as and when needed.
- **Preparing dressing material at home:** Cut soft cotton clothing (cleaned saree / dhothi) into required size pieces. Steam them in steamer/ pressure cooker. Sun dry them, by spreading over clean news-paper. Pack in clean steel vessel with lid, and use directly during dressing.
- **Excessive exudates can be managed by adding multiple layers of pads, non-sterile pads and sanitary napkins can used in the outer layers to facilitate absorption.**
- **Metronidazole tablets (non-sugar coated) can be powdered finely and given to the family, so they are able to powder and use.** This is a useful local antibiotic

### B. Nursing Care for maggot-infested malignant wounds

- **Irrigation** – irrigate with saline and removal of maggots with forceps
- **Cover/uncover** - Maggots are photophobic. Cover the wound with gauze for 5 minutes then open and remove the maggots
- **Suffocation** - Cover the wound with paraffin gauze to block airfor 24 hours. Dead maggots can be removed manually or destroyed by macrophages
- **Irritation:** Turpentine - Soak a gauze with 2mL of turpentine and place it on the wound. The fumes irritate the maggots, which can be removed as they exit

### C. Supportive care for managing Fistula

- All personal hygiene measures are to be continued – bathing, oral, skin and perineal care. Vaginal douching is to be avoided.
- Elicit and address hydration, feeds issues (sight, smell of wound, taste changes due to oral wounds – causing nausea / vomiting)
- Elicit and address psychosexual and social support – address the social isolation and discrimination.
- Educate on managing the wound at home – demonstrate and check understanding through supervised practice – before discharge

#### a. Oro-cutaneous fistula:

- Diligent, regular oral hygiene.
- Wound dressing that absorbs or collects effluent – multilayered wound dressing covered with water-proof dressing or the use of stoma devices if the flow is copious.
- Protect the skin opening with a barrier cream, such as zinc oxide.
- Educate the patient on feeding by involving a swallow therapist and dietician. Where aspiration or nasal regurgitation is present, a feeding tube can be helpful. This is as an informed, shared decision.
- When there are no features of aspiration, using a straw/feeding tube for placing liquid food into the oral cavity beyond the fistula avoids insertion of a permanent feeding tube.
- Fistula leakage increases with salivation. Soft diet that requires less chewing are tolerated better by these patients.
b. **Enterocutaneous fistula:**
   - **Skin care:** Chemical irritation caused by the leaking bowel contents is the most common cause of skin irritation.
     - Zinc oxide paint, Karaya Powder made as a paste with egg-white.
     - Pouching systems can protect the skin from chemical irritants. Teach the patients on how to safely remove and apply the pouching system to prevent mechanical injuries.
   - **Dressing**
     - A simple gauze and padded dressing is adequate in low-output fistula (output less than 150-200mL/day).
     - As the volume increases more frequent dressing change will be required.
     - To prevent further injury during frequent dressing change it is safer to switch over to pouching systems when the volume of the effluent increases.
   - **Pouching systems:** For medium output and high output (> 200 mL/day) fistulae.
     - Ostomy bags are appropriate
     - When the output is thin, watery and high in volume, urinary drainage bag may be attached to the pouches.

c. **Vesicovaginal and rectovaginal fistulas:**
   - **Counseling** – acknowledging and addressing the pain and deep distress
   - **Shared decisions around palliative surgical procedures** based on sound clinical judgment.
     - Offered with great restraint and with a maximum of effort to explain the limitations to patients.
     - Percutaneous nephrostomies in very carefully selected patients with highly distressful symptoms. The non-disease-modifying nature and the permanent nature of the PCNs should be comprehended by the patient/family with willingness to accept nephrostomy tubes in situ. Smaller fistulas may heal with PCNs.
     - VVF / VRF repair with Diversion (Ileal conduits, diversion colostomy, rectal stents etc.)
       - Indication to operate - to improve the multi-factorial distresses.
       - Highly complex procedure – feasible at tertiary care center where expertise and advanced resources are available
       - Decision to operate is based on performance & nutritional status of the patient, presence of infection and foreign bodies. Contra-indication - immunocompromised status. Acute spasmodic pain from the bladder is an important post-op concern

**Nursing Care for VVF/ VRF**
   - Regular baths – as feasible
   - Manage the infection, foul smell and pain with analgesics (as described above))
   - Gentle perineal irrigation –with due diligence -educate a personal care
     - Diluted Inj Metronidazole solution in normal saline
     - Warmed and cooled water 500 ml with dissolved tablespoonful of cooking soda.
   - Effluent collection
• Minimal - clean strips of cloth or bundles of cotton in her panties, to absorb it & if moderate - Sanitary pads
• Cloths or pads should be changed as often as needed to keep the area dry and free of smells
• If the skin is very sensitive, petroleum jelly or zinc oxide cream may be applied.
• Covering the bed with a plastic sheet or clean newspaper can help to protect the linens

• Urinary incontinence
   • Partially managed by continuous bladder drainage in vesicovaginal fistula.

• Fecal incontinence
   • Stool softner
   • Permanent diversion colostomy - as a palliative measure (activate surgical package)

d. **Reducing problems associated with fistula**
   • Acidification of urine to diminish the risk of cystitis, mucous production and formation of bladder calculi (Vitamin C)
   • Antibiotics for infection
   • Anti-spasmodics
   • Sitz bath
   • Barrier ointment (Zinc oxide) to prevent dermatitis