

Chemotherapy – The Patients Perspective .

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Aims of the session

- To discuss from a patient's perspective what to expect when attending for chemotherapy
- Common side effects of chemotherapy and how to manage them
- Signposting people to support services



What should the patients expect when attending for chemotherapy?

- Attended Consultant clinic and discussed chemotherapy options , treatment intention (palliative , post surgery) and signed a consent form . Side effects discussed but not how to manage them .
- Will attend chemotherapy day Unit for a Pre assessment appointment
- Should Include :- Tour of the unit , explaining the layout , what all the machines are for etc .(helps to allay some worries prior to attending for treatment)
- Nursing assessment completed –
- Baseline fitness and observations
- nutritional status including weight
- Social issues – referral to district nurses
- Financial discussion – ds1500 referral .
- Baseline bloods – including tumour markers, DYPD testing, hepatitis screen
- Chemotherapy side effects discussed in greater detail, including management of side effects .
- Appointment scheduling explained .
- Follow up in the CNS pre chemotherapy review clinic .

Treatment day

- Patient will attend Day unit at designated time
- The named nurse will call them into the treatment area .
- Weight and observations checked
- Toxicity assessment carried out.
- Patient cannulated and commenced on IV flush
- Pre med antiemetics administered 30 minutes – 1 hour pre treatment
- Chemotherapy infusion commenced (different time to administer different drugs)
- Patient monitored throughout treatment for reactions/anaphylaxis.
- Cannula removed / central line flushed
- Discharge anti emetics given and fully explained
- Appointment for the next cycle of chemotherapy given .



- Chemotherapy is 'cytotoxic' and kills cells .
- Side effects are unavoidable but manageable
- Different drugs cause different side effects
- Important to recognize that 1 in 10 patients may be admitted to hospital with side effects from chemotherapy
- <1 in 100 patients may die from life threatening toxicity from chemotherapy

Common Side Effects .

- Nausea and vomiting
- Diarrhoea
- Fatigue
- Mucositis
- Alopecia
- Neutropenia
- Anaemia
- Risk of bleeding
- Plantar Palmar Erythema
- Rash
- Cold sensitive parathesia /neuropathy



Neutropenic sepsis /Infection

Febrile neutropenia is the most common complication of chemotherapy treatment

It is a potentially life-threatening side effect . It causes organ dysfunction due to a dysregulated host response to infection .

Temperature <36 or > than 38 c

Respiratory rate >20

Heart rate >90

White cell count <4 or >12

Any signs or symptoms of sepsis in a person whose absolute neutrophil count (ANC) is 0.5×10^9 or lower .

Sore throat

Urinary symptoms

SOB / purulent sputum

Diarrhoea.

Sepsis Six pathway

The Sepsis Six



1. Give high-flow oxygen via non-rebreathe bag
2. Take blood cultures and ***consider source control***
3. Give IV antibiotics according to local protocol
4. Start IV fluid resuscitation Hartmann's or equivalent
5. Check lactate
6. Monitor hourly urine output consider catheterisation

within one hour

..plus Critical Care support to complete EGDT



- For neutropenic sepsis , dose modification will be carried out and prophylactic GCSF will be given with high-risk chemotherapy drugs . Iv antibiotics given until clinical improvement and afebrile , blood parameters returning to normal .
- For non neutropenic infections , infections should be treated according to location of infection as per hospital policy .
- Chemotherapy will be delayed until antibiotics are completed, and patients' symptoms have improved .

Fatigue.

- Performance status is assessed pre chemotherapy and prior to each chemotherapy cycle.
- Grade 0 - normal activity levels , can carry out strenuous work /activity with no restriction
- Grade 1 – some restrictions on strenuous activity but is able to carry out light work/ housework
- Grade 2- unable to work but can manage own care and is ambulatory
- Grade 3 – limited self care , sitting or in bed more than 50% waking hours
- Grade 4 – bed or chair bound , needing assistance with self care
- Grade 5 – dead
- Treatment decision is influenced by baseline performance status .
- (For metastatic patients)
- PS 0-1 Fit enough for Triplet chemotherapy (FOLFIRINOX)
- Ps 1 -fit enough for Gemcitabine / Abraxane
- PS 1-2 fit enough for single agent Gemcitabine

Managing fatigue .

- Usually fatigue is at its peak 2-5 days post chemotherapy (depending on regimen given)
- Encourage patients to rest when needed but also try and maintain a reasonable activity level.
- Frailty when having chemotherapy is a huge issue .
- Exercise (normal for them) is to be encouraged – helps combat fatigue.
- Assess at which part of the day fatigue is at its worst , encourage the patient to plan activities when they feel less fatigued .
- For severe fatigue grade 2-3 and not improving throughout the cycle , consider dose reduction in chemotherapy .
- Dexamethasone 4mgs OD for 7 days reducing down to 2mgs OD for 7 days is used as a way for trying to boost energy levels and increase appetite (assess for contraindications) .

Managing Nausea and Vomiting – Post Chemotherapy

Chemotherapy induced nausea and vomiting is managed differently depending how emetogenic the regimen is :-

Grade 0 – no sickness

Grade 1- mild nausea but still eating and drinking /1-2 episodes of vomiting in 24 hours

Grade 2- significant nausea/vomiting(3-5 episodes in 24hours) affecting oral intake. No weight loss/dehydration

Grade 3- inadequate oral intake /dehydration. >6 episodes of vomiting in 24 hours . Requiring admission to hospital .

Grade 4 – potential life threatening consequences



- Mildly emetogenic (Gemcitabine)
- Premed antiemetics of Metoclopramide IV and then given orally to use PRN for intermittent nausea.
- Metoclopramide works by inhibiting dopamine D2 and serotonin 5-HT3 receptors in the chemoreceptor trigger zone located within the postrema of the brain . It is also used for its prokinetic effects which accelerate gastric emptying and transit through the gut .

- Moderately Emetogenic (Gemcitabine/Abraxane)/ significantly emetogenic (FOLFIRINOX)

- Ondansetron 8mgs given as a pre-med prior to chemotherapy and then 4mgs BD for 2 days post chemotherapy .

- It is a 5HT3 receptor antagonist which blocks 5HT3 receptors in the gastro intestinal tract and central nervous system . This prevents nausea and vomiting . It can cause hiccups and constipation .

- Dexamethasone is used as a premed and for 1 day post chemotherapy as an antiemetic , it increases the efficacy of the other antiemetics used in conjunction
- However caution should be used as it can cause agitation and increase blood sugars .

- Metoclopramide is then used for prn basis .

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- These are the usual starting antiemetics , however if someone develops significant nausea or vomiting these will be altered .
- Aprepitant is used for any nausea and vomiting within the first 24-48 hours , when ondansetron is not being effective .
- It is used in conjunction with Ondansetron and dex .
- Aprepitant is a neurokinin receptor antagonist , it is an inhibitor and inducer of CYP 3A4(this is an enzyme found in the liver and intestine which oxidizes toxins/drugs so they can be removed from the body .
- Palonosetron IV is used for delayed onset nausea and vomiting (after 48 hours) and then this effect lasts 4-5 days
- Levomepromazine is used for severe nausea and vomiting .
- Antipsychotic drug with antiemetic properties . Caution is used as it can cause drowsiness
- Anticipatory nausea and vomiting is common , Lorazepam (benzodiazepine usually used for anxiety or agitation) can be effective in treating chemotherapy induced nausea and vomiting

Managing Diarrhoea .

- Chemotherapy induced diarrhoea is classified as a significant increase in bowel movements from their normal bowel pattern .
- Grade 0 –normal for patient
- Grade 1- < 4 stools a day
- Grade 2- 4-6 stools a day , not interfering with normal activity
- Grade 3- 7-9 stools a day . Severe cramping which interferes with normal activity
- Grade 4- >10 stools a day , +/- blood , requiring hospital assessment
- Grade 5- life threatening
- Chemotherapy usually stopped (if oral drug) – dose modification required for next cycle of treatment .
- Treated with Imodium (up to 8 in 24 hours) . Codeine is given on top of Imodium for severe diarrhoea .
- Admit for IVT , Infection ruled out . (clostridium difficile and cultures)
- Chemotherapy deferred until symptoms resolved .
- Assess for steatorrhea (may not just be chemo induced in pancreatic patients)
Creon dose may need adjusted .

Plantar Palmar Erythema – hand foot syndrome

- Classified as redness, swelling, blisters and pain often on palms of the hands and soles of the feet .
- Caused by Fluoropyrimidines (5FU / Capecitabine)

Prevention is key

- Avoid soaking hands and feet in hot water
- Use rubber gloves when washing dishes
- Avoid tight fitting shoes and socks
- Apply emollient cream regularly to try and maintain skin integrity

Treatment

- Emollient cream containing urea is helpful
- Delay chemotherapy until skin healed to grade 1
- Dose reduction with next cycle of chemotherapy



Cold sensitive paraesthesia - severe pins and needles in extremes of temperature

- Patients counselled on avoiding touching cold things such as wearing gloves to go into the freezer .
- Wearing hats and gloves when outside even if weather not too cold.
- Oxaliplatin chemotherapy can cause significant pins and needles which can be painful .
- Most common in first 4-5 days post chemotherapy , usually intermittent and then resolves
- Dose reduction considered if pins and needles are continuous or any neuropathy occurs
- Neuropathy can be temporary or may be permanent
- Also laryngeal spasm can occur if patient s drink cold drinks –
- All drinks to be served at room temperature to avoid this from occurring

Support for patients having chemotherapy

Oncology Clinical Nurse Specialist	Oncologist and team	Acute Oncology Nurses	24 hour chemotherapy side effect triage line
Community nursing team	Community palliative care team – patients with complex symptoms	Support groups/ websites	Maggie's
Macmillan Welfare Rights	For adjuvant chemotherapy patients	HPB Clinical Nurse Specialist	Surgical Team

