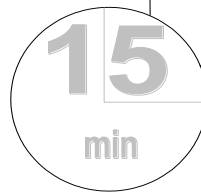


CLiP

15 minute Worksheet



Helping the patient with reduced hydration and nutrition

8: The cachexia syndrome

Advanced level

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Aim of this worksheet

To consider the features and causes of the cachexia syndrome in advanced disease.

How to use this worksheet

- You can work through this worksheet by yourself, or with a tutor.
- Read the case study below, and then turn to the Work page overleaf.
- Work any way you want. You can start with the exercises on the Work page using your own knowledge. The answers are on the Information page - this is not cheating since you learn as you find the information. Alternatively you may prefer to start by reading the Information page before moving to the exercises on the Work page.
- This CLiP worksheet should take about 15 minutes to complete, but will take longer if you are working with colleagues or in a group. If anything is unclear, discuss it with a colleague.
- If you think any information is wrong or out of date let us know.
- Take this learning into your workplace using the activity on the back page.

Case study

Ben is a 33 year old man who has a moderate learning disability together with hydrocephalus, spastic diplegia, visual impairment and epilepsy. He has been diagnosed as having a carcinoma of kidney with lung metastases.

Ben is usually well nourished, but in three months he has lost 11kg weight. He is now refusing food and becoming less active on a weekly basis.

v10

Description

- T. Cachexia is a syndrome, ie. a collection of signs and symptoms.
- F. The weight loss is both fat and skeletal muscle- up to three-quarters of both can be lost
- T. Cachexia is seen in cancer patients (especially cancers of the stomach, pancreas and lung), but is also seen in AIDS, end-stage cardiac disease and chronic infection (eg. tuberculosis), but not in neurological diseases.
- F. Cachexia is not the same as starvation since apart from loss of fat, other processes are very different:
 - up to 75% skeletal muscle breaks down (in starvation there is a reduction in protein breakdown);
 - the liver increases in size (in starvation it reduces);
 - lactate production produces non-productive energy cycles (in starvation glucose turnover reduces);
 - resting energy use can be increased (it is reduced in starvation);
- F. This process is not the result of the cancer competing for energy (cancers do not usually use up more than 1% of the body's energy needs).

Mechanism

- Cachexia is mediated by the body's own cytokines produced as part of a systemic inflammatory response (SIR) to the presence of cancer, chronic infection or heart disease. Cytokines are low molecular weight proteins that integrate cell activity and over 100 are known.
- Some cytokines, such as tumour necrosis factor and interleukin 6, cause loss of appetite (anorexia), reduce the ability of the bowel to absorb nutrients, reduce the action of insulin and activate useless energy cycles.
- Additional chemicals such as proteolytic initiation factor and insulin growth factor encourage muscle loss.

The effects of cachexia on Ben

Loss of weight this is the most obvious outward sign and cachexia will be one cause of Ben's 11kg loss in 3 months.

Weakness: this is causing Ben's reduced mobility and is partly due to the dramatic loss of skeletal muscle.

Fatigue: this means a loss of energy and adds to the problems of Ben's reduced mobility.

Pressure area damage: the reduced mobility and less efficient healing mean that Ben is at increased risk.

Body image: the sudden change in appearance is often distressing and Ben will be aware of the change.

Reduced survival: cancer patients with cachexia do not survive as long as cancer patients who do not have cachexia.

Breathlessness: this is common in advanced cancer, even in the absence of any direct involvement of the lungs by cancer. The cause may be a combination of skeletal muscle loss and anaemia.

Reduced mobility: this has many causes including muscle loss, inefficient use of energy, anaemia and breathlessness

Anaemia: this is probably a direct effect on the bone marrow causing fewer red cells to be produced.

Fever: effects on the hypothalamus can result in pyrexia with sweats.

Oedema: this will further reduce Ben's mobility and make it difficult for him to wear shoes. Low pressure stockings can often help.

Treatment

There are four ways to help cachexia:

1. *Support for the distress of cachexia*: this includes exploring body and sexual image, catering and nutritional advice, coping strategies for fatigue and support for psychological adjustment disorders.
2. *Nutrition*: although extra nutrition replaces deficiencies and may partly restore body image through fat deposition, it does not usually reverse cachexia. In particular, loss of skeletal muscle is not reversed. Even total parenteral nutrition results in more weight by putting on fat, but no increase in muscle strength which can make the situation worse.
3. *Appetite stimulants*: corticosteroids (eg. dexamethasone, prednisolone) are commonly used but have a limited action of 4 weeks and can have troublesome long-term adverse effects (proximal muscle weakness, increase in blood glucose, reduced healing, suppressed immunity to infection). However, corticosteroids have the advantage of inducing a sense of well-being and do improve the quality of life for many patients. Megestrol acetate is effective in doses of 800mg/day but is expensive and can cause troublesome fluid retention. Cyproheptidine and hydrazine sulphate have been shown to be no better than placebo- hydrazine may actually reduce survival. See also CliP worksheets on *Fortifying and Enriching the Diet* and *Maintaining the Environment for Eating and Drinking*
4. *Blocking / inhibiting cytokines and SIR*: NSAIDs such as ibuprofen have a modest ability to inhibit cachexia. A possible alternative is the use of eicosapentaenoic acid (EPA) a fatty acid derived from fish oil. Given in doses of 2-6 g/day together with 600 calories it is capable of reversing weight loss in cachectic pancreatic cancer patients, and can increase their survival. Concentrated omega-3 fish oils are available in chemists and contain up to 30% EPA. A combination of NSAID and EPA fish oil may provide better control than either alone.

In the future, it is possible that the cachexia process may prove to be as important a target as tumour growth.

True or false?

Which of the following statements about cachexia are true and which are false?

- Features are loss of appetite, weight loss, fatigue, anaemia and oedema True False
- Loss of fat is the main cause of weight loss True False
- Cachexia can occur in patients with severe heart disease True False
- Most of its effects are due to starvation True False
- The cancer competes with the body for energy True False

Reflect

Think about how cachexia could affect Ben

Reflect

Think about what you can do to help Ben

- Psychological support
- Nutrition
- Stimulating the appetite

FURTHER ACTIVITY: The cachexia syndrome

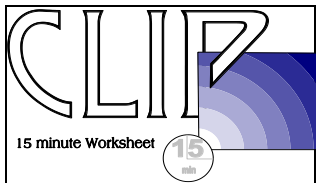
For a patient with weight loss due to cancer, AIDS or end-stage cardiac disease

- What features of the cachexia syndrome are present
- What effect is reduced mobility and loss of body image having on the patient

FURTHER READING : The cachexia syndrome

Journal articles

- Evans WJ, Morley JE, Argiles J, Bales C, *et al.* (2008) Cachexia: a new definition. *Clinical Nutrition*. **27**(6): 793–9.
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Current Learning in Palliative care
An accessible learning programme for health care professionals

15 minute worksheets are available on:

- An introduction to palliative care
- Helping the patient with pain
- Helping the patient with symptoms other than pain
- Moving the ill patient
- Psychological and spiritual needs
- Helping patients with reduced hydration and nutrition
- Procedures in palliative care
- Planning care in advance
- Understanding and helping the person with learning disabilities
- The last hours and days
- Bereavement

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