Relieving the burden: palliative centesis of an oedematous scrotal wall due to anasarca in end-stage heart failure

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SUMMARY

End-stage congestive heart failure is a leading diagnosis among hospice patients without cancer. As in terminally ill cancer patients; the aim of the treatment was to focus on palliation and maximum symptom relief. Anasarca, a widespread swelling of the skin because of effusion of fluid into the extracellular space, is a common sign in end-stage heart failure causing much pain and discomfort. We described a simple, safe, bedside technique to alleviate the discomfort associated with massive scrotal oedema.

BACKGROUND

In the past two decades, palliative care for the terminally ill has developed substantially in hospital settings as well as in the community, including home hospice care. This development reflects the rise in the number of patients receiving care as well as the shift from exclusively treating patients with cancer to treating patients diagnosed with other terminal illnesses such as incapacitating congestive cardiac failure.¹

CASE PRESENTATION

An 82-year-old, retired lawyer, married, having two daughters and seven grandchildren was diagnosed with congestive heart failure (CHF) for 27 years. During the last year of his life the heart failure worsened as he experienced a myocardial infarction. In addition to maximal doses of ACE inhibitors, β -blockers and diuretics, he also had a dual chamber pacemaker inserted in an effort to improve his cardiac output. During the 6 months before admission to the home hospice unit he had been hospitalised eight times due to severe exacerbations of heart failure. His last echocardiogram estimated an ejection fraction of 12%. He had been experiencing rapid increase of fluid retention which was clinically presented as anasarca. After consulting his cardiologist and with support from his family, he requested for treatment in his own home under the supervision of our home hospice team.

On the first home visit of the hospice team to the patient, a complete palliative care assessment was performed by a physician and a nurse. The team was satisfied that the patient had understood the concept of palliative and hospice care and he expressed his wish to remain at home for the remainder of his days. A few objective tools were used to assess the patient's symptoms, including a Palliative care Outcome Scale-Symptoms questioner (POS-S), specifically designed for the assessment of patients with a deterioration during a prolonged

chronic illness and experiencing multiple symptoms. The patient indicated a score of 3 (on a scale of 0–4) for the following symptoms: shortness of breath, weakness and drowsiness and a score of 4 for immobility. Overall score was 24 of 40. When asked about the main reason for his worsening immobility, the patient indicated his 'enormous' scrotum to be the most significant cause of his distress. He said that the size of his scrotum impeded his ability to walk and urinate and was his main source of distress. His scrotal oedema has been developing in the last month and he had gained body weight of 3 kg.

TREATMENT

Increasing the dose of the diuretics was ruled out as a therapeutic option by the treating cardiologist due to severe serum electrolyte imbalance over the past few months. Therefore, after an informed consent, scrotal wall centesis was preformed. The patient was asked to lie down on his side, as comfortable as possible before local site preparation, including disinfection of the skin and infiltration with local anaesthesia (1% lidocaine using an intra-dermal needle) was performed. A 18 G needle was placed about 1 cm into the scrotal skin. Unlike paracentesis, there was no need for aspiration using a syringe. Only a needle for draining fluid directly into disposable cups was necessary (figure 1). This allowed the patient to shift position every few minutes for his own comfort because of orthopnoea. The patient reported no discomfort from the actual procedure. After an hour a total of 450 mL fluid was drained and the scrotum regained its original size and contour. The needle was withdrawn and there was no need for local dressing.

OUTCOME AND FOLLOW-UP

Immediately after the procedure the patient reported tremendous relief and was excited to be able to walk for the first time in almost a month. During the week that followed a further POS-S was completed by the patient. This time the total score dropped from 24 to 16 of 40 with shortness of breath, weakness, pain and drowsiness falling one point each, loss of appetite falling two points and immobility falling three points. The patient attributed his overall improvement to the fact that he could sit upright for many hours, stand up and walk the minimal distances he wanted and could urinate more freely. Two weeks after the initial procedure a second scrotal wall centesis was preformed due to a recurrence of scrotal oedema and worsening of his symptoms. This time a total of 300 mL

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Figure 1 Centesis of scrotal wall.

of fluid was drained, achieving similar symptom-relief as on the first occasion. The patient passed away a week later after experiencing an acute exacerbation of heart failure most probably due to another coronary event. He died at home with minimal discomfort.

During the condolence visit by the hospice staff, the bereaved family was very explicit in reflecting the positive impact the scrotal centesis had had on the patient in the last days and weeks of his life inasmuch as the procedures had allowed him a more dignified and comfortable end-of-life experience.

DISCUSSION

End-stage congestive heart failure is a common diagnosis among hospice patients without cancer. Once all medical treatment is exhausted and the patient presents with a functional capacity of stage 4 NYHA (New York Heart Association), life expectancy is similar to that of patients with advanced cancer and care should focus only on palliation. Owing to a myriad of pathophysiological factors anasarca develops in many of these patients, thus, aggravating the shortness of breath and deterioration in the patient's well being. In men, one of the most disabling sites of fluid accumulation is the scrotal wall. This results in the impairment of both ambulation (physically not being able to walk due to the size of the scrotum) and urination (the fluid in the scrotum compresses the urethra and leads to painful urinary retention). By definition, these patients have exhausted the

option of elevating doses of diuretics for treating the accumulation of extravascular fluid because they have already received maximal diuretic therapy. Hence, there is a need for a non-diuretic treatment option to alleviate their discomfort.

Any technique offered to alleviate anasarca should comply with basic palliative treatment codes such as minimal dependence on tests, equipment and facilities.² Also, the symptom relief should be immediate, as some of these patients are in their last days or weeks of their lives. Centesis is a procedure whereby the skin and underlying tissues are punctured in order to drain away fluid. This is a common practise in palliative medicine where abdominal paracentesis is performed to drain ascites and pleural taps regularly drain malignant as well as failure-related pleural effusions, bringing rapid relief to patients struggling to breathe. Excessive oedema fluid may also be drained from tissues rather than cavities and this is performed by placing fine needles within the oedematous subcutaneous tissue.

Scrotal centesis is usually performed for hydroceles.³ In these cases it is the scrotal cavity that is being drained and not the actual skin of the scrotum. The anatomy of the scrotum and presence of the midline raphe precludes drainage of a hydrocele through puncture of the scrotum on one side, whereas, when draining the scrotal skin, a single puncture is effective in tapping fluid within the skin of the entire scrotum.

Learning points

- ▶ Symptomatic treatment in palliative care can make a dramatic difference to the lives of patients.
- ▶ Simple solutions to distressing problems are possible and should always be sought.
- ▶ Innovations in medicine often require the transfer of relative simple skills from one domain to another but the advantage for patients as a result may be significant.

Contributors RS looked after the patient as attending Palliative Care physician and WS co-wrote the manuscript.

Competing interests None.

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