Home Medical Care and Treatment of Decubitus (Bedsores)


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Abstract: As society ages, large numbers of decubitus patients are being treated at home. Tokyo clinical dermatologist’s association offers a “110 Bedsores” emergency line, and the number of house calls made by dermatologists is rising. Important causes of decubitus are, locally, continuous pressure and, systemically, nutriture and posture adjustment handicaps. Decubitus is ranked from 1 to 4 depending on their depth, and deep decubitus is grouped into a black phase, yellow phase, red phase or white phase on the basis of their progress. Decubitus requires treatment that corresponds to progress and condition. The basic local management is to avoid pressure. And as adequate posture adjustment is often difficult in home nursing, it is important to make early use of air mattresses or other pressure relieving devices. If a black-phase decubitus is subject to vibration, an early house call is required to perform incision or debridement. The ulcerated area should be washed with physiological saline, and external medicine be applied depending on the state of the decubitus. Systemically, it is important to maintain nutriture and the movements of routine activities. Home care and treatment require a concerted effort on the part of the doctor, family, visiting nurses, and care workers.

Key words: Decubitus; Home care; “110 Bedsores”; Classification of decubitus by color

Introduction

Home care of the bedridden elderly is now regarded highly important as society ages and the long-term care insurance system has been implemented. Decubitus is quick to develop in the bedridden elderly, and many decubitus patients are treated at home. In this article home care and treatment of decubitus will be discussed.

The home treatment of decubitus requires cooperation of a dermatologist with extensive experience in treating decubitus. The Tokyo Clinical Dermatologist’s Association provides an emergency telephone service called “110 Bedsores” that responds to calls and recom
mends nearby dermatologists who can make house calls to treat decubitus and other dermopathies. More and more dermatologists are making house calls, not only in Tokyo but all around the country, making it possible for patients and caretakers to obtain the cooperation of dermatology specialists in treating decubitus.

**Factors in the Onset of Decubitus**

Decubitus is a cutaneous and subcutaneous tissue lesion that lapse into irreversible necrosis due to continuous pressure on a part of the body incapable of spontaneous motor activity causing the obstruction of blood circulation.

There are local factors and systemic factors behind the onset of decubitus. Among the major local factors the first is pressure, the second, friction and slippage, and the third, dampness from the incontinence of feces and urine. The most important of these is local, continuous pressure; continuous pressure of 200 mmHg for two hours or more leads to local necrosis. Loci of bone protrusions are especially susceptible to local pressure and, since they have little muscular or subcutaneous tissue, to blockage of blood flow.

The favorite site of decubitus is the sacral region, accounting for over 50% of instances, followed by the leg joints and the greater trochanter. Decubitus may also develop in the coccygeal region when raised on the skin when raising the bed. Decubitus also readily develops in the ischiatic region when seated for long periods of time.

Systemic factors include 1) impaired consciousness, 2) nutriment, and 3) posture adjustment handicaps (bedridden conditions). Statistically cases of cerebro-vascular accidents, Parkinsonian syndrome, spinal neuropathy, and cranial neuropathy are common basic illnesses underlying decubitus.

Among nutriment conditions, hypoalbumi-
naemia and anaemia reduce endurance of tissue. At least 3.5 g/dl of albumin and 11 g/dl of haemoglobin are considered desirable for preventing and treating decubitus.

As the number of elderly bedridden by such causes as cerebro-vascular accidents, broken bones, senility is rising, in order to prevent disuse atrophy it is necessary to provide guidance to help them out of bed as much as possible in their daily routine and to have them maintain and upgrade the activities of daily living (ADL).

The infection of a decubitus is another important factor as it may induce other infectious diseases such as cellulitis, pneumonia, and urinary tract infection.

The Severity of Decubitus and the Course of Their Symptoms

Many factors are involved in the evaluation of the severity of decubitus such as their size, depth, infection, and surface attributes, but they are generally classified according to depth, and Shea’s system of classification is often used.

The first level is an acute inflammation generalized across soft tissue. Lesions are confined to the epidermis, and epidermal erosion may be observed.

The second level is an ulcer generalized across all dermal layers accompanying general inflammation of soft tissue.

The third level is a deep ulcer extending from subcutaneous tissue to the fascia.

The fourth level is lesions throughout all layers of the fascia and soft tissue extending to bone and articulars, and exhibiting exposure of bone.

Deep, pocket-shaped ulcers are also noted for their occlusion.

Decubitus of the first and the second level of severity is considered shallow, and the third and the fourth levels considered deep, the distinction being drawn at the fascia.

Deep decubitus takes a chronic course, and its surface attributes change in accordance with that course. The system of decubitus classification according to color proposed by Fukui usesfully describes the course of chronic deep decubitus lesions. Decubitus develops through black, yellow, red, and white phases.

In the black phase, the surface of a decubitus is covered by blackish-brown necrotic tissue, accompanied by flaring and swelling at its circumference. A purulent effusion pools immediately beneath the necrotic tissue. These black-phase lesions require surgical treatment by a physician, and it is essential for the home care patient to receive a house call.

In the yellow phase, yellow presents in the ischemic granulation around the necrotic tissue, and may present as yellowish-brown or yellowish-green if contaminated by bacteria. Since the wounds are easily infected at this stage, the necrotic tissue must be removed and the affected area washed.

In the red phase, extensive and benign granulated tissue develops to cover the capillary vessels. The wounds gradually become shallow, and epithelization begins around their borders.

In the white phase, the granulated tissue contracts, there is epithelization around the circumference, and the wounds begin to scar and heal.

Home Care and Treatment of Decubitus

1. Local management of decubitus

The first necessary local management to prevent the onset and aggravation of decubitus is to avoid pressure.

Indices such as the Braden Scale and K Scale are used to evaluate the risk of onset of decubitus. Pressure relieving devices are used where it is deemed that decubitus may develop readily. If a decubitus is already present, use of a pressure relieving device is the basis of treatment to prevent its aggravation and relapse.
A change of posture every two hours is indeed effective in the prevention and treatment of decubitus, but home care places a large burden on the caregiver and changes of posture are especially difficult at nighttime. It is better to use an appropriate pressure relieving device at an early stage, which would allow the number of times of posture changing to be kept to a minimum.

The patient should be provided with an air mattress for pressure relief as early as possible. Pressure-switching air mattresses are effective, and those that generate waves or alternate inflation are recommended. The air pressure of an air mattress is adjusted on a body weight scale, but the caregiver must also insert a hand beneath the mattress directly to make sure there is sufficient air so that the patient’s body does not touch the bottom side. When seated in a chair or wheelchair, the patient requires a cushion, and it is preferable to use a high-density urethane foam cushion for wheelchairs. Where contracture is an issue, interposition of a pillow or cushion will serve to relieve pressure. The caregiver must also watch for contact with urination tubes and bed fencing.

2. Local intervention for decubitus

The acute phase of a deep decubitus requires incision and drainage or debridement. In case of contact with wave motion in the black phase, an early house call is required to perform incision. Gradual debridement of the ischemic granulation is called for in the yellow phase. Isodin® may be used for disinfection, but it should be restricted to the circumference of wounds and physiological saline used to wash the ulcer. To wash the ulcer, a 23-gauge needle is used to open a hole in a plastic tube with 20 ml of physiological saline which will spurt from the hole. A 100 ml bottle of physiological saline pierced with an 18–22 gage needle may also be used.

Appropriate external medicines for the black and yellow phases are the antibacterial U-PASTA® and Geben® cream. If parts remain infected in the red phase, they are treated in the same way as during the yellow phase. If benign granulation is observed during the red phase and there are no signs of infection, one can switch to such external medicines as Olcenon® ointment, Actosin® ointment or Prostandin® ointment that promote the formation of granulation so that the period of treatment be shortened. The recently marketed Fiblast Spray® may also be used for treatment during the red phase.

Hydrocolloids and other similar medicinal patches are used for decubitus of second-level depth or shallower. Since decubitus infections may be overlooked at home, medicinal patches should not be used on decubitus of third-level depth and deeper. Irregular gel hydrocolloids such as Granugel® are also used for deep decubitus.

To treat bacterial infections of decubitus, an attempt can be made to culture the bacteria in the pus or on the surface of the ulcer and classify the pathogen, but it is also effective to presume the pathogen immediately on the basis of odor and color of stain on gauze, and to start treatment accordingly at an early stage. In treating a decubitus infection, it is necessary not only to make local use of antibacterial agents, but also to perform systemic administration of the appropriate antibiotics. If the infection is grave, hospitalization should be considered.

The most important objectives of home care and treatment of decubitus are to get through the black and yellow phases as quickly as possible and to proceed to benign granulation without infection in the red phase.

3. Skin care for decubitus patients

Caregivers should refrain from bathing a decubitus patient when there are symptoms of severe inflammation and pus discharge, but in so far as the systemic condition otherwise allows, caregivers should bathe patients proactively. When a patient cannot be bathed, they should be bed-bathed, their genital area
washed, and the affected area kept clean. When the affected area is susceptible to dampness due to urinary incontinence, care should include white vaseline or a moisture-retaining external medicine around the affected area, spraying the area with the commercial wipe Sanina® and care of the skin.

4. Systemic management of decubitus patients

Since there is often little hope for improvement in the basic illness rendering an elderly patient bedridden, what is important is to work to maintain and improve their remaining activities of daily living (ADL).

Patients who are not yet bedridden must not be left in bed, but managed to prevent disuse atrophy.

Meals and nutrient supplements should be designed for sufficient ingestion of nutrients. Minimum targets are 3.5 g/dl of albumin and 11 g/dl haemoglobin. When a patient is not taking enough food, Ensure Liquid® solution or the like may be prescribed to supplement nutrition. Attention to infections other than decubitus infections is required.

Cooperation with Medical Caregivers in the Home

Home care and the treatment of decubitus requires the close cooperation of everyone involved, including caregivers. Home care and the treatment of decubitus involve a large number of care giving members: the attending physician, a dermatologist, the patient’s family, visiting nurses, home helpers, visiting bath attendants, care welfare workers, and care managers.

When making house calls, a physician must give the patient’s family and visiting nurses instructions how to change dressings daily and how to administer external treatment, and house calls must be coordinated with their schedules so that they will be present when house calls are made.

A notebook should be provided at the patient’s bedside for everyone involved to communicate with each other on care procedures, problems that arise in treatment and the course of the disease.

Education on decubitus has been insufficient up to now, but recently some good books are available by Muraki3) and Miyachi8). The most basic reference is Miyachi’s Guidelines for the Prevention and Treatment of Decubitus (Bed-sore),8) which should be used for training caregivers in the field.

Conclusion

The Japan Organization of Clinical Dermatologists has been actively involved in home medical care for the past two years. The copy phrase for a poster now being prepared reads, “Dermatologists make house calls for bedsores, eczema, and the like.” As a dermatologist, I too intend to be actively involved in the home care and treatment of decubitus.

REFERENCES

