

Infection risks of cancer patients with catheters and implanted ports

The use of semi-permanent, centrally placed venous access devices is associated with frequent and potentially life-threatening infections. In contrast, recent experience suggests that cancer patients with implanted port devices may be less prone to device-related infection.

To evaluate infectious morbidity associated with long-term use of venous access devices, the authors studied data from a prospective evaluation of all Hickman-type Silastic tunneled catheters and completely implanted subcutaneous ports inserted at the Sloan-Kettering Cancer Center between June 1987 and May 1989.

At least one device-related infection occurred with 341 of 788 catheters compared with 57 of 680 completely implanted ports. Device-related bacteremia or fungemia is the predominant infection occurring with catheters, whereas ports have a more equal distribution of pocket, site, and device-related bacteremia. The number of infections per 1000 device days was 2.77 for catheters compared with 0.21 for ports. The predominant organisms isolated in catheter-related bacteremia were gram-negative bacilli compared with gram-positive cocci in port-related bacteremia.

The incidence of infections per device-day was 12 times greater with catheters than with ports. Patients with solid tumors were the least likely to have device-related infectious morbidity compared

with those with hematologic cancers. The reasons for the difference in infectious complications is uncertain but may be attributable to type of disease, intensity of therapy, frequency with which devices are accessed, or duration of neutropenia.

Groeger JS, Lucas AB, Thaler HT, et al: Infectious morbidity associated with long-term use of venous access devices in patients with cancer. *Ann Intern Med* 1993;119:1168-1174.

Low-dose oral etoposide in the treatment of adult T-cell leukemia

Low-dose etoposide, administered orally, is known to be effective against various malignancies, including malignant lymphoma. However, its effectiveness as a treatment for adult T-cell leukemia (ATL) has not been established.

In spite of much research on ATL, virtually no effective treatment has been found. In the accelerated and acute phases of ATL, combination chemotherapy is assumed to be the standard modality of treatment. However, prognosis associated with ATL remains poor; rate of complete remission (CR) is not high and, if achieved, is usually of short duration; and infection during combination chemotherapy is a serious problem.

Etoposide, a broad-spectrum antineoplastic agent, acts by inhibiting the enzyme DNA topoisomerase II. Some patients with refractory lymphoma unresponsive to intravenous administration of standard doses of etoposide responded to low-dose oral administration of the same drug.

The authors describe a 74-year-old woman with ATL in acute phase in whom complete remission (CR) was achieved with daily oral administration of low-dose (25 mg/m²) etoposide. In addition, by using the polymerase chain reaction technique, they demonstrated quantitatively the remarkable decrease of human T-cell lymphotropic virus type I (HTLV-I) proviral DNA in the peripheral blood of the patient after the treatment.

Before treatment, the patient had generalized lymphadenopathy and hepatomegaly. The serum lactic dehydrogenase (LDH) level was high.

Within 10 days of initiation of treatment, the leukocyte count and the serum LDH level began to fall gradually. The level of LDH normalized before the 20th day of the treatment. Lymphadenopathy and hepatomegaly disappeared. On the 55th day of the treatment, CD25-positive cells had virtually disappeared from the peripheral blood. The CR was maintained for more than 16 months. No side effects were observed during the treatment.

The authors conclude that daily oral administration of low-dose etoposide can be a safe and effective treatment for patients with ATL, especially the elderly. They suggest the need for investigation of more cases in order to define the role of this mode of chemotherapy for the treatment of ATL.

Kojima H, Hori M, Shibuya A, et al: Successful treatment of a patient with adult T-cell leukemia by daily oral administration of low-dose etoposide. *Cancer* 1993;72:3614-3617.