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CHELIDONIUM MAJUS L. (UKRAIN) IN THE TREATMENT OF CANCER PATIENTS

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Summary: *Ukrain, a semi-synthetic thiophosphoric acid compound of alkaloid chelidonine isolated from* Chelidonium Majus L., *Tris[2-[[5bS-(5ba,6b,12ba)]-5b,6,7,12b,13,14-Hexahydro-13-methyl][1,3]-benzodioxolo[5,6-c]-1,3-dioxolo[4,5-i]phenanthridinium-6-ol]-Ethaneaminyl] Phosphinesulfide 6HCl, causes a regression of tumours and metastases in many oncological patients. More than 400 documented patients with various carcinomas in different stages of development have been treated with Ukrain. The authors report on only three different cases treated with preparation Ukrain. Ukrain can be helpful in improving the general condition and prolonging life by reduction of the tumour progression and its immunomodulating effect on the organism.*

Introduction

It is known that alkaloid derivates from the plant *Chelidonium majus L.* exert an immunostimulating effect in patients with various carcinomas (1).

The thiophosphoric acid chelidonine derivate from the plant *Chelidonium majus L.*, called Ukrain preparation, has been extracted by J.W. Nowicky (USA Patent No. 2,670,347) and has been tested with good malignotoxic activities in many cell lines (2). Human research has demonstrated cancer growth inhibiting activities, with regression and disappearance of cancer cells in several cases (2–6). This paper reports three cases of interest in clinical practice.

Patients and methods

Case One: A 9-year-old girl had felt marked pain below the right knee joint in November 1983 after slight injury. Roentgenological investigation revealed a Ewing's sarcoma in the proximal portion of the right fibula (Fig. 1). This diagnosis was confirmed by histological examination showing *neoplasma maligna microcellularae*. She was then referred to the hospital for treatment. Treatment included cobalt therapy (4400 Rad to the right fibula and 1000 Rad to the localized tumour. Chemotherapy modified according to Rosen (actinomycin D, VCR and ADR) without methotrexate was carried out in one five-day and in two three-day cycles. X-rays confirmed that the patient's tumour had not responded to radiation and chemotherapy and the tumour mass rapidly increased. One month after the end of cytotoxic therapy the treatment with the preparation Ukrain was initiated because the tumour process in the right fibula had not been stabilized. (Fig. 2) Ukrain treatment was started on 21 January 1984 at a daily dosage of 1 ampoule of 5 mg i.m. for a total of 10 injections. The first series of Ukrain therapy included three identical courses with a two week pause between them. At the start of the Ukrain treatment and

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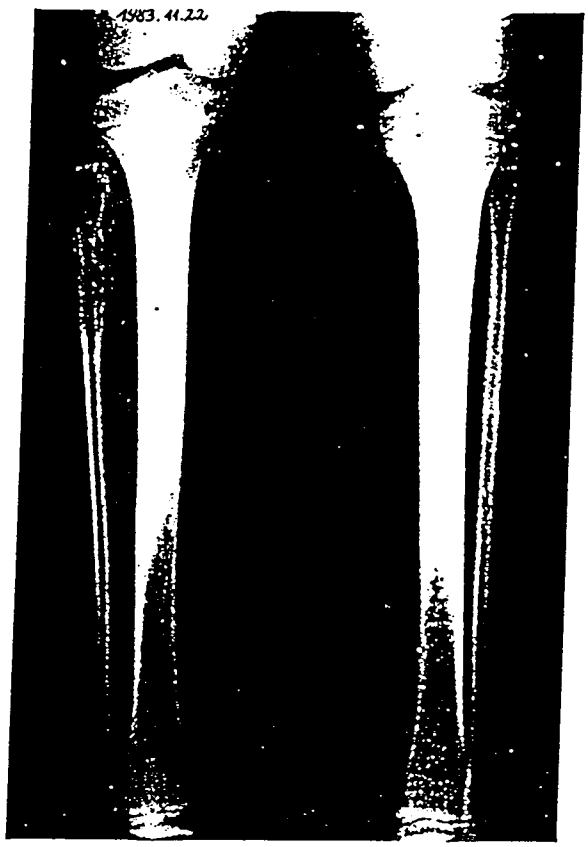

Fig. 1 X-ray of the right leg, (22 Nov. 1983) at time of diagnosis, prior to chemotherapy and radiation therapy

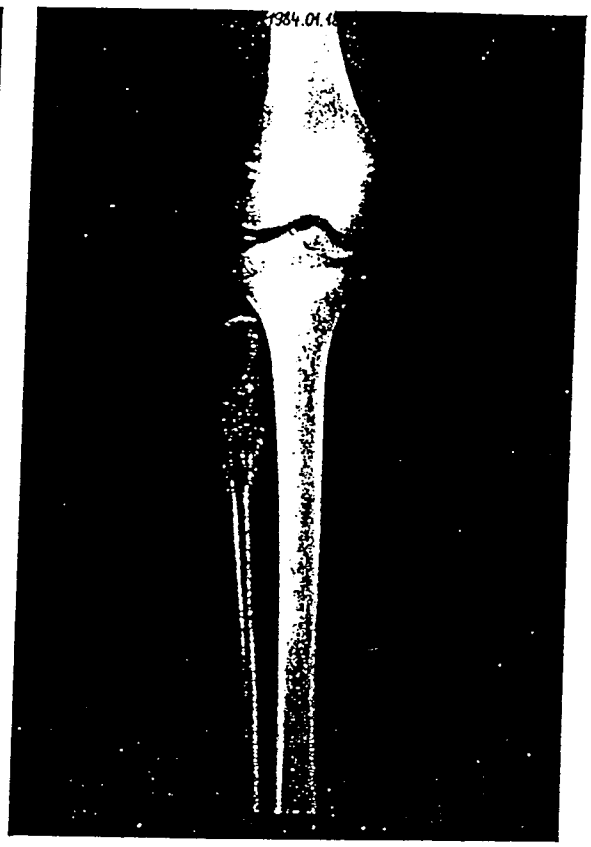

Fig. 2 X-ray (18 Jan. 1984) three days prior to beginning of Ukrain therapy

during this therapy a stabbing pain in the right lower extremity had worsened, oedema with cold and hot sensation in the tumour area had developed, and body temperature had risen to 39°C. The patient had a feeling of weariness and weakness. She was also restless. At the end of each course of Ukrain therapy the general condition of the patient improved slowly. Pain of the right lower extremity diminished; temperature returned to normal and oedema decreased. Repeated X-rays did not demonstrate tumour growth, but, on the contrary, the slow reduction of the tumour mass (Fig. 3). An activity of the osteoblastic and osteoclastic processes in the area of tumour defect of the right fibula was observed that indicated remission (Fig. 4). However, a slight feeling of weakness and weariness continued to be reported by the patient.

In one year, six series of Ukrain treatments were conducted in the patient who presented in the fourth and fifth courses with typical "Ukrain reaction", that is, an increase of pain, rise in body temperature to 38–39°C, a feeling of weariness and weakness, oedema in the tumour area, with cold and hot sensations. After the end of the fifth course the condition

Fig. 3 X-ray (14 Dec. 1984) after eleven months of Ukrain therapy.

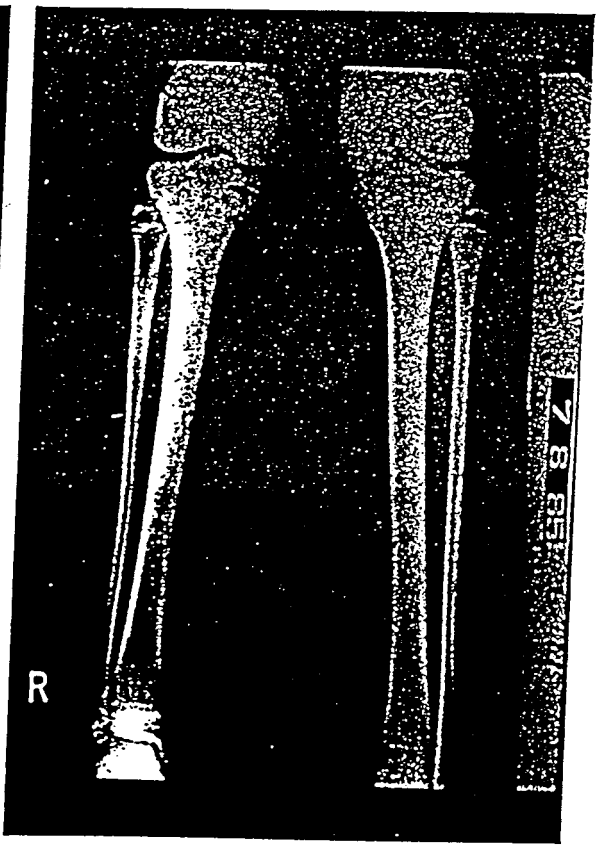

Fig. 4 X-ray (7 Aug. 1985), after two years and ten months of Ukrain therapy.

of the patient remained good. Roentgenological examination of the right fibula was without pathological findings. Other laboratory investigations were uneventful, as was X-ray on 31 October 1990 (Fig. 5). As a result of the radiation therapy, the growth of the right leg had lessened and was thinner than the left leg, with a difference of 6 cm between the two legs.

Case Two. A 58 year old patient, female, with a tumour the size of a child's head, was diagnosed to have an adenocarcinoma of the right colonflexur (Dukes' C1, T4, N1, MO, RO, Grade 3). A hemicolectomy was performed, with ileo-transverse anastomosis. One positive lymph node was found.

Growth of the tumour adherent to the duodenum and opening of the duodenum was noted. The postoperative course under Ukrain was normal. The latest findings following Ukrain therapy (including coloscopy and ultrasound) date from summer 1991 with no indication of tumour regression. The 1992 controls have not yet been received, but the patient feels well.

Case Three. A 69 year old patient, female, with histologically verified carcinoma of the breast. X-ray

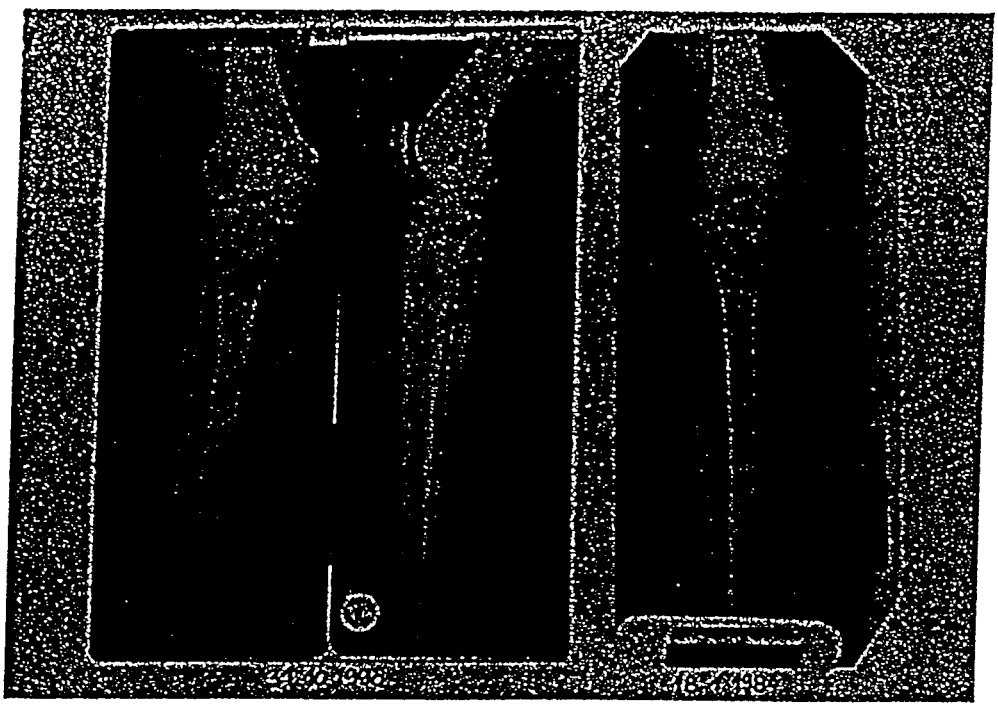

Fig. 5 Comparative X-rays: 31 Oct. 1990 and prior to therapy (18 Jan 1984).

of the skull on 22 Nov. 1988 showed numerous round, hazelnut-sized defects indicative of metastases. Ukrain therapy was initiated on a 20 day regimen: one ampoule Ukrain (5 mg/5 ml), i.m. every day, followed by a break of 10 days. This scheme was repeated eleven times identically.

A whole-body and skeletal scintigram on 28 Nov. 1989 (one year after the start of Ukrain therapy) showed conditioned increase of activity in both knee joints caused by degenerative alterations. In other respects the scintigram was uneventful. There was no indication of metastasis. As a result of these findings the therapy scheme was changed to a 20 day scheme as above, then a break of two months. Up to 2 Oct. 1991 seven therapies of the new scheme were applied, with the patient free of recurrence.

Discussion

In several instances it has been proved that Ukrain causes a 100% cell growth inhibition of 60 malignant cell lines representing eight major human cancers (8) within a dosage of 10/4 µm/ml. There are cytotoxic effects with 5–20 mg of the preparation in a whole course of clinical treatment without any serious side effects to the patient. (In healthy volunteers, up to 50 mg Ukrain gave no reaction or side effects)

It should be noted that Ukrain causes tumour regression in Ewing's Sarcoma after unsatisfactory chemotherapy and radiation treatment.

Until now there has been no really satisfying strategy for treating colon cancer pre- or post-operatively. *In vitro* trials by the National Cancer Institute revealed a high degree of sensitivity to Ukrain by all eight human cell lines of carcinoma of the colon tested. Ukrain was also clinically effective in carcinoma of the colon. There is a marked correlation with the *in vitro* trials by the NCI where colon carcinoma was demonstrated to be highly sensitive to Ukrain. Therefore a broad clinical study of colon therapy should be carried out, as the therapy to date is both unsatisfactory and toxic.

In a similar manner, there is no scheme of chemotherapy in beast cancer without uncomfortable side effects. In such cases Ukrain has proved to be highly interesting and warrants broader clinical study. Although the immunomodulating power of Ukrain is widely acknowledged in clinical studies (5), its cytotoxic effect should be further investigated as a high response of 50% has already been recorded in clinical reports (8).

Conclusion

Allowing that effective cancer treatment does not satisfy patients and physicians in many cases, *in vitro* results in the use of the new preparation Ukrain introduce the hope of clinical improvement in the treatment of cancer patients in an effective and comfortable way.

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