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Pregnancy During Alpha-interferon Therapy in Patients with Advanced Hodgkin's Disease

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TREATMENT OF malignancy during pregnancy is very limited because of the teratogenic potential of antineoplastic drugs. Much of the published data concerns pregnancy in patients with chronic myelogenous leukaemia, hairy cell leukaemia and thrombocythemia [1], and, using a computer-assisted medical literature search programme (Cancerlit-CancerCD 1984–1994), we found reports on only 11 pregnant patients treated with alpha-interferon (IFNα) [2, 3] and no reports on use of such therapy in pregnant patients with Hodgkin's disease.

Here we report a case of pregnancy in a woman aged 30 years with advanced and heavily pretreated Hodgkin's lymphoma. In 1983, she was diagnosed elsewhere with mixed cellular Hodgkin's disease, stage IVB (liver–pericardium). Nine cycles of MOP (no procarbazine) were administered, achieving a complete response (CR). In 1987, while off therapy, she became pregnant for the first time and delivered a normal male infant. The disease recurred in 1988, and the patient underwent three cycles of MOPP–ABVD, after which she was lost to follow-up for 2 years. When she came back in relapse, three cycles of ProMACE-CytaBOM achieved no response.

The patient was first seen in our Department on January 1991 for axillary and neck nodal progressive disease. Treatment consisted of mantle field radiation therapy up to 4200 cGy and IFNα 3 000 000 U 3 times a week. After 10 months, local progression was detected in cervical nodes and more radiotherapy (3060 cGy) was administered. Systemic treatment with IFNα continued. As amenorrhoea never occurred, after 6 months of IFNα therapy, while in partial response and on treatment, the patient became pregnant on June 1992. She did not discontinue IFNα therapy until October 1992. The pregnancy was uncomplicated and in March 1993 she delivered a 3.200 kg male infant; placental examination was normal. The baby developed normally and is now 2 years old. The patient is alive but with progressive disease.

IFNα has been shown to be neither mutagenic *in vitro* nor teratogenic in animals [1], but it may have abortifacient effects in Rhesus monkeys when administered at doses significantly greater than those used in human standard therapy. IFNα inhibits cell proliferation probably through its effects on protein synthesis, RNA degradation and modulation of the immune system, rather than by inhibition of DNA synthesis [4, 5]. Most agents commonly used to treat chronic myelogenous leukaemia and Hodgkin's disease can inhibit DNA synthesis, and, therefore, have the potential to cause miscarriage, intra-uterine growth retardation and congenital malformation. None of the reported twelve infants born to IFNα-treated pregnant mothers have had congenital malformations (Table 1).

Some drugs used in treating malignancies (chronic myelogenous leukaemia), such as busulphan and hydroxyurea, inhibit DNA synthesis with potential teratogenic effects, particularly during the first trimester. Indeed, three of the 23 infants born to women who were treated with busulphan during pregnancy had congenital malformation [1]. IFNα lacks inhibition of DNA synthesis and to date, has been shown to be safe for use during pregnancy. Further data are needed to confirm the role of IFNα in the treatment of malignancy during pregnancy.

Table 1. Malignancies treated with IFNα during pregnancy

Mother's disease	Infants
Chronic myelogenous leukaemia	6
Thrombocythemia	3
Hairy cell leukaemia	2
Hodgkin's disease	1

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