

Prostate Cancer; Prostate UCB Injection Delays Onset of Prostate Cancer and Improves Survival

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2006 MAR 16 - (NewsRx.com) -- Umbilical cord blood injection into the prostate delays the onset of prostate cancer and improves survival.

According to a recently published study in the journal Cancer Letters, "Stem cell transplantation to improve the onset and survival of animals or humans with prostate cancer has not been studied adequately.

"In this study, we examined whether intravenous administration of human umbilical cord blood (HUCB) mononuclear cells into TRAMP (transgenic adenocarcinoma of the mouse prostate) mice can delay the onset of prostate cancer and improve survival of these mice before and after the development of cancer."

"Twenty TRAMP mice were randomly divided into 2 groups. One group of 10 mice received 200×10^6 HUCB mononuclear cells retro-orbitally into the venous plexus at the age of 6 weeks.

"Another group of 10 mice did not receive HUCB cells and served as control mice. The presence of tumor was detected by abdominal palpation, which was confirmed by biopsy," wrote N. Ende and colleagues at the University of Medicine and Dentistry of New Jersey

"When 4 of the 10 control mice developed the tumor," researchers said, "they were treated with the same dose of HUCB cells. Either at the time of death or sacrifice, various tissues were examined for the presence of HUCB cell total RNA by reverse transcriptase PCR.

"Also, the tissues were examined histologically for the presence of metastasis and carcinoma. Kaplan-Meier survival plots were used to assess the lifespan of the mice."

The authors reported, "The data show that the control mice developed the tumor much earlier than the treated mice (control vs. treated: 238 ± 38 vs. 311 ± 40 days; $p < 0.001$).

"Also, transplantation of HUCB cells either before or after the development of tumor significantly increased the life span compared to that of control mice. Persistence of human RNA either in blood or spleen was associated with prolonged survival. No graft vs. host disease was observed in any of the mice."

"Transplantation of HUCB mononuclear cells via intravenous administration into TRAMP mice retards not only the development of prostate cancer but also increases the lifespan of these mice," Ende concluded.

Ende and colleagues published their study in *Cancer Letters* (Administration of human umbilical cord blood cells delays the onset of prostate cancer and increases the lifespan of the TRAMP mouse. *Cancer Lett*, 2006;231(1):123-128).

Additional information can be obtained by contacting A.S. Reddi, University of Med & Dent. New Jersey, New Jersey Medical School, Dept. Med, Division Nephrology & Hypertension, 185 S Orange Avenue, Newark, NJ 07103, USA.

The publisher of the journal *Cancer Letters* can be contacted at: Elsevier Ireland Ltd., Elsevier House, Brookvale Plaza, East Park Shannon, Co. Clare, Ireland.

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