

NEWS

THE UNIVERSITY OF TEXAS
SOUTHWESTERN
MEDICAL SCHOOL AT DALLAS



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DALLAS--Doctors here are using freon gas, best known for its air-conditioning capabilities, to fuel a promising new preventive attack on cancer of the cervix.

In a report just released, gynecologists at The University of Texas Southwestern Medical School describe successful use of a tissue-freezing technique known as cryosurgery to destroy abnormally-growing cervical cells in 32 of 35 women patients diagnosed to have "mild dysplasia"--an early form of abnormal change in the cervix, or mouth of the womb.

Cryosurgery also was shown to be effective in easing severe discomfort and shrinking tumor size among five women suffering from advanced malignancies in the pelvic area, says the report, written by Dr. Thomas R. Singley.

All the patients studied were treated by the freezing procedure in the gynecology clinic at Parkland Memorial Hospital in an experimental program under way for the past 18 months, aided by an American Cancer Society grant. Dr. Singley administered the treatments under supervision of Dr. Creighton L. Edwards, UTSMS assistant professor of obstetrics and gynecology and director of gynecologic oncology (tumor study) at Parkland.

The 35 patients were women under age 30 found by "Pap" smears--microscopic examination of cells scraped from the cervix--to have mild dysplasia, described by Dr. Edwards as a "pre-malignant" condition.

Of the 35, he said, "only three have had evidence of residual or recurrent change to abnormal cells" following a single episode of treatment by a freon-cooled probe which kills the suspiciously-changing tissue.

The freezing is accomplished in a few minutes in a clinic and has few side-effects, Dr. Edwards said.

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first add tissue freezing

"With this technique, we are freezing what would have been removed surgically," he said--thus saving patients loss of time from work and the cost of hospitalization (an estimated \$500) that otherwise would be required for surgery. Surgical distortion of the cervix also is avoided, he pointed out.

Dr. Singley's report cited intensive followup examinations of the 32 successfully-treated patients for periods ranging from three months to a year, with no recurrence or medical difficulties noted other than some menstrual-type cramping soon after treatment.

"Some who have received cryosurgery have stayed normal for more than two years," Dr. Edwards said, noting that the cryosurgery procedure is still so new that longer evaluations are not yet possible.

Parkland's dysplasia clinic currently is treating by freezing some five or six patients a week. Freezing presently is limited mostly to those with the mildest form of cellular irregularity, Dr. Edwards said. Cases of more advanced dysplasia and fully developed tumors of the cervical lining or surrounding area are receiving treatment by surgery and radiation therapy.

Once microscopic examinations confirm the presence of mild dysplasia--usually a small ulcer--physicians aim the cone-shaped probe's chilling blow at the sector found most vulnerable to malignancy: the juncture of the outer lining and internal covering of the cervix.

The cryosurgery probe, shaped to fit the cervical opening, is applied to the area, about an inch in diameter, freezing it to a temperature of 50 degrees below zero for about five minutes, Dr. Edwards explained. The frozen tissue is allowed to thaw, then frozen again.

The frozen tissue, about three millimeters (one sixth of an inch) deep, sloughs off and is replaced by new skin. "Indications are," Dr. Edwards said, "that whatever malignant changes going on are stopped in their tracks" by the freezing.

Since nerve-endings are chilled almost instantly, there is "no real pain" associated with the process except for a slight initial stinging, the medical professor said.

second add tissue freezing

Tissue freezing also was found to be unexpectedly effective against advanced cancers, Dr. Singley's report indicated.

He reported that repeated experimental freezing of advanced malignancies of the pelvic area proved useful in five cases in temporarily reducing the size of sometimes-massive tumors. Pain and bleeding also subsided, at least temporarily.

Dr. Edwards cited one surprising example: a 43-year-old woman, suffering from a tumor the size of an orange, had experienced shrinkage of the malignancy to the size of a golf ball.

"She has been coming in once a month for about a year for a treatment, and is able to work and lead a normal life," he said.

Parkland's \$1,750 cryosurgery device was among the first to be placed in regular use in the nation, Dr. Edwards said. The technique is gaining recognition rapidly, with several such units in operation in the Dallas area today, he said.

Use of cold as a tool to fight disease was first described in the 1930s, Dr. Edwards said. The technology spurted in the early 1960s with development of a surgical freezing probe powered by liquid nitrogen. More recently, the easier-to-use freon gas units speeded practical application of the technique.

The gynecologist foresees expanded clinical application of cryosurgery against cervical cancer, with early data gathered here supporting its eventual use on more advanced dysplasia and as an adjunct to surgery--to curb the danger of "spilling" live malignant cells during the operation. Use of freezing as a substitute where other medical factors rule out major surgery is another probability, he said.

Along with early detection and other conventional forms of therapy, cryosurgery may help to further reduce the death rate from cancer of the cervix, which has already been reduced "to half what it was in 1935," Dr. Edwards noted.

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third add tissue freezing

"Successful use of the technique still depends on patients getting pap smears and routine pelvic examinations to detect early signs of pre-cancerous conditions," he said. Clinical evidence indicates the mysterious disease process evolves from early dysplasia to more advanced forms, sometimes becoming a fully invasive tumor spreading beyond the womb's lining within a year.

"Examination once a year would catch it," he said.

Intensive followup examinations required after cryosurgery bring patients under the continued watchful care of physicians--a vital factor in continuing the successful battle against cervical cancer, Dr. Edwards added.

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