UROTHERAPY FOR PATIENTS WITH CANCER

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Subcutaneous urine injections was practiced in 1912 by Duncan (1) from New York under the name of auto-pyotherapy for urinary infections, and in 1919 by Wildbolz (1) from Bern for diagnostic purposes. Cimino (2) from Palermo reported in 1927 on the use of auto uro-therapy for urinary infections. Rabinowitch (3) in 1931 described this auto-urine therapy for gonarthritis. Jausion et al. (4) used this kind of therapy in 1933 for desensitization and endocrinological problems. They treated with auto urotherapy injections patients who suffered from migraine, pruritus, asthma, urticaria, eczema, psoriasis, etc. Day (5)in 1936 treated patients with acute and subacute glomerulonephritis by injection of an autogenous urinary extract. Sandweiss, Saltzstein and Farbman (6) reported in 1938 that an extract from urine of pregnant women has a prophylactic and therapeutic effect on experimental ulcers in dogs. Shortly thereafter the same group noted that an extract from urine of normal women has a similar beneficial effect (7).

In 1926 Seiffert first described the construction of ileal loop conduits for urinary diversion (8). Bricker in the 1950s popularized the use of the ileal loop as a means of supravesical urinary diversion following exenteration for pelvic malignancy in adults (9). Ureterosigmoidostomy as a means of urinary diversion was used widely from 1920 to 1955. It was this type of implant which Hammer first reported in 1929 associated with tumor (10).

Peyer`s patches are immunocompetent lymphoid organs which participate in intestinal immune responses (11). Epithelial cells within the crypts of the small bowel are one of the fastest dividing cells in the body and yet they show one of the lowest rate of malignant transformation (12). Stem cells in the mucosa of the small bowel can divide every 8 to 12 hours (13). Tapper and Folkman (14) demonstrated that exposure of intestinal segments to urine causes marked lymphoid depletion in the segments. These studies give additional support to the idea that a lymphocyte suppressive factor exist in urine (15). The continued presence of urine bathing the intestinal mucosa appears to locally inhibit regeneration of the Peyer`s patches.

Starkey et al. (16) detected in human urine a material that is biologically and immunologically similar to epidermal growth factor that causes proliferation and keratinization of epidermal tissues.

The increased susceptibility of the colon to cancer associated with the existence of an implanted ureter has been theorized to relate to 3 factore: 1. The role of the urine in the colon (17,18). 2. The mechanical effect of the fecal stream on the stoma (19). 3. The age of the anastomosis (20). Adenocarcinoma of the colon mucosa is a recognized complication of ureterosigmoidostomy. The tumor, which develops adjacent to the junction of the ureter with the bowel, occurs 500 times as often as in the population at large and, in children so operated , 7,000 times as often as in all persons under age 25. The latency period is 5 to 50 years (17,21-23).

It is common knowledge that malignant tumors may disappear

spontaneously although very infrequently (24-26). Usually it is accepted that this could be due at least partly to an immunological reaction (27,28). Renal adenocarcinoma is one of the cancer types in which such spontaneous regressions have been described most frequently (24,26).
Urinary extracts from patients with aplastic anemia (29) and idiopathic thrombocytopenic purpura (30) are capable of stimulating megakaryocyte colony growth in culture, and when injected into rats could also induce thrombocytosis in peripheral blood and megakaryocytosis in the spleens of these animals. Stanley et al. (31) demonstrated that rabbits immunized with human urine concentrates from leukemic patients developed antibody which neutralized the mouse bone marrow colony stimulating factor in human urine and human serum.
Urotherapy is suggested as a new kind of immunotherapy for cancer patients. Unlike the clonal immunotherapy the urine of the cancer patients contain the many tumor antigens which constitute the tumor. Oral auto-urotherapy will provide the intestinal lymphatic system the tumor antigens against which they may produce antibodies due to non-self recognition. These antibodies may be transpierced through the blood stream and attack the tumor and its cells.

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