

HISTOPATHOLOGIC CHANGES OF THE PROSTATE FOLLOWING CRYOABLATION. Roberto Orozco, Gerard O'Dowd, and Vasantha Rao. Oklahoma City, OK (Presentation by Roberto Orozco).

Although cryoablation of the prostate has been practiced for a number of years now, the histopathologic changes that result from this treatment modality have not been fully characterized, and more importantly, the contribution of pathology to the overall improvement of this surgical technique has been very limited. The sequential changes that take place after cryosurgery need to be defined so that we can gain some insight into the biologic potential of residual cancer. We studied systematic sextant biopsies from 62 patients (age range = 51-82 and mean = 70 years) that underwent cryosurgery for prostatic adenocarcinoma 19-524 (mean=139) days prior to biopsy. An average of 1.46 tissue cores was submitted per sextant and the cores had an average length of 1.32 cm. The histopathologic changes can be divided into specific (centrally located): complete coagulative necrosis followed by a peculiar fibrosis, and nonspecific (peripherally located): which are more reactive/reparative in nature. The amount of tumor present in the positive cases (n=15) was generally small. The mean residual tumor involved 3.34% of the total biopsy area and had a mean length of 1.32 mm. The Gleason patterns present in the post treatment biopsy correlated with at least one pattern present in the pretreatment biopsy and the tumor morphology remained unchanged. In all cases cancer was present at the peripheral end of the biopsy. The percentage of cases with residual benign glands is higher for the positive group. All positive cases had histologically unremarkable prostatic tissue in the vicinity of tumor. Residual cancer is more frequently present at the peripheral zone, is generally small in amount, and is surrounded by viable prostatic tissue. Cryotherapy has a powerful capacity to ablate all prostate tissue components.