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AN EXPERIMENT IN ANIMAL MODEL FOR MANAGEMENT OF PROSTATIC CARCINOMA

Anatomy

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ABSTRACT

A study designed on mice for the purpose of effectiveness of castration how does effect on carcinoma prostate of said animal. It is seen that castration done on experimental group of mice shows the decrease growth of glandular tissue of prostate .

KEYWORDS

Castration, Management, Prostatic Carcinoma

INTRODUCTION:

Prostatic carcinoma is one of the leading cause of morbidity and mortality in male in India. Most rural Indians are going to die because of Ca prostate with out treatment or surgery at early stage due to poor economic status.

Present study design is on animal model where after castration glands and acinii of prostate is observed histologically.

Aims and objectives:

Three months after castration albino mice were sacrificed for prostatic tissue observation under microscope after Hematoxylin and Eosin stain.

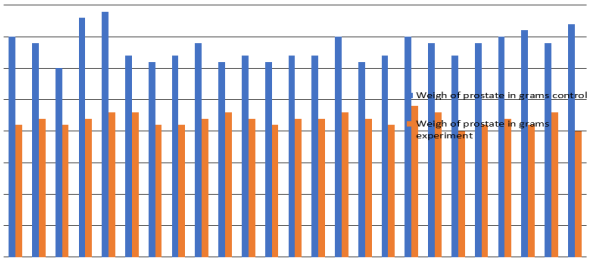
Materials and method:

50 adult male albino mice are taken and castration done under intraperitonial anaesthesia and individual mouse was taken care of wound and sacrificed after 3 months to observe the prostate under microscope after H and E stain.

Histomorphology done in sections of prostate and observation was compared with available standard histology of prostate from text books and atlas.

RESULT

Control				Experiment			
Serial no	Weigh of prostate in grams	Epethelium Of acinus Tall columner=2	Stroma: acinus ratio	Serial no	Weigh of prostate in grams	Epethelium Of acinus Tall columner=2 Cuboidal =1	Stroma: acinus ratio
1	3.5	2	1	26	2.1	1	1.5
2	3.4	2	1	27	2.2	1	1.5
3	3.0	2	1	28	2.1	1	2.0
4	3.8	2	1	29	2.2	1	2.0
5	3.9	2	1	30	2.3	1	2.0
6	3.2	2	1	31	2.3	1	2.0
7	3.1	2	1	32	2.1	2	2.0
8	3.2	2	1	33	2.1	1	2.0
9	3.4	2	1	34	2.2	1	2.0
10	3.1	2	1	35	2.3	1	2.0
11	3.2	2	1	36	2.2	1	2.0
12	3.1	2	1	37	2.1	1	2.0
13	3.2	2	1	38	2.2	2	2.0
14	3.2	2	1	39	2.2	1	2.0
15	3.5	2	1	40	2.3	1	2.0
16	3.1	2	1	41	2.2	1	2.0
17	3.2	2	1	42	2.1	1	2.0
18	3.5	2	1	43	2.4	1	2.5
19	3.4	2	1	44	2.3	2	2.0
20	3.2	2	1	45	2.0	1	2.5
21	3.4	2	1	46	2.1	1	2.0
22	3.5	2	1	47	2.2	1	2.0
23	3.6	2	1	48	2.1	1	2.5
24	3.4	2	1	49	2.3	1	2.0
25	3.7	2	1	50	2.0	1	2.0



Graph

Above table and graph shows that the weight of prostate gland after castration is reduced markedly.

The lining epethelium of prostate gland acinii are changing from pseudostratified epithelium to low columner to cuboidal epethelium. The supranuclear clear zone of cells disappear.

The apparent stromal dominance over the glandular acinii after castration is predominating.

DISCUSSION

After castration in albino mice the less effect or lowering level of testosterone in serum causes abnormal distribution of fat components

at several organs and the supranuclear clear zone of aciner cells of prostate is deminished because of lowering of fat components in cytoplasm leading to decrease of height of pseudostratified epethelium and presence of low columner to cuboidal epethelium.

Collagenous proliferation at stroma leads to alter the acinus stromal ratio at prostatic tissue.

Ultimately it is found that total volume or the mass of prostatic tissue in castrated mice is reduced .

The findings are supporting the previous workers' evidences.

INFERENCE

The basic plan of treatment of prostatic carcinoma to reduce the gland size, to reduce the proliferation of glandular acinii and to localize the tumour mass with in the capsule. All these may be achieved only by simple reduction of testosterone level in serum either by medication or by castration in early phase of diagnosis before its metastasis.

In rural population with low socioeconomic background castration is a low cost surgery of choice for prostatic malignancy.

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