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STUDIES ON ROUTINE URINE ANALYSIS OF URINARY TRACT INFECTION

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Abstract

The data obtained form routine urine analysis Viz physical examination, chemical examination and microscopic examination revealed that, in case of physical examination of urine sample is yellow to milky colour was observed while in case of appearance it was turbid to hazy where as putrefied odor was observed in all sample n=10. The data obtained form chemical examination indicates presence of albumin in all sample. Bile salt is present only one sample. The data obtained form microscopic examination revealed that pus cell count increases in all samples suffering from Urinary tract infection (uti).

Keywords: Urine sample, *E. coli*, *Candida albigus*

Introduction

The urinary tract is the body filtering system for removing liquid wastes or urine. Normally urinary tract is free forming any micro organism. But when the organism appears in urinary tract it is term as urinary tract infection. Urinary tract infection is an extremely common clinical problem. it is second commonest bacterial infection after respiratory diseases. Various factors contribute to uti like age, sex, season impairing defense mechanism to maintain sterility of urinary tract etc. Urinary tract infection is also associated with pylonephritis and cystitis. It may be symptomatic or obtain asymptomatic in pregnant women develops cystitis and 50 % develops pylonephritis Kass (1970). In children it leads to serious complications hence, it is very important to diagnose and treat infection to avoid such complications (Hadad, 2005).

Materials and Methods

Routine examination of urinary tract by chemical examination.

Determination of Protein

3 – 4 ml of centrifuge urine sample was transferred into a small test tube 10x75 mm. then 2 -3 drops of sulphosalisylic acid were added on the top of the sample, after 5 min the turbidity was observed for the presence of albumin (Protein).

Determination of Bile Salt

10 ml of urine sample was placed in a test tube then Dry sulphur powder was sprinkled on the top of the sample. Sink of sulphur powder at the bottom indicates presence of bile salt.

Determination of Glucose

Mixture of 2 ml Benedict's reagent and 8 drops of urine was heated for 5-10 min (Table-1)

Table 1. Determination of sugar content of urine

Colour	Conclusion	Approx. Glucose mg/dl
Blue	Sugar absent	Nil
Green to Pale Yellow	Sugar present in trace	200 – 500
Green to Dark Yellow	Sugar present + to ++	500 – 700 750 – 1000
Yellow ppt to orange	Sugar present +++	1000 – 1500
Orange to Red ppt	Sugar present ++++	1500 to more than 1500

Microscopic analysis of urine

Clean catch urine samples where collected in wind mouthed sterile container. Then the samples were transferred to centrifuge tube. The tubes were centrifuged at 2500rpm. For 5 minutes supernatant were poured off. One drop form deposit were placed on clean glass slide and covered with a cover slip. Then the slide was observed first under low power objective in subdued light. The contents of various were noted down

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Result and Discussion

The data obtained form routine urine analysis Viz physical examination, chemical examination and microscopic examination revealed that the pH reaction of all the samples shows acidic reaction. In case of physical examination of urine sample is yellow to milky colour was observed while in case of appearance it was turbid to hazy where as putrefied odor was observed in all sample n=10. The data obtained form chemical examination indicates presence of albumin in all sample. Bile salt is present in only one sample and sugar are absent in all samples suffering from UTI.In the reaction state albumin is present in urine samples this may be due to the reason that APN, renal failure, pyuria condition etc. The presence of albumin can be used as marker in progress in infections state. The data obtained from microscopic examination of revealed that pus cell count increases in all samples suffering from uti. The result of micro scopic of cast and crystal indicate that in only one sample epithelial cast and in one sample RBC cast was present. while, only one sample oxalate crystals was present. The result reveled that approximately all samples cell and yeast cell were present (Table 2). It might be due to urinary tract infection cause by pathogenic microorganism such as *E. Coli, Candida* etc.

Table 2 Routine Urine Analysis of urinary infection tract

Sample	Colour	Reaction	Odor	Appearance	Albumin	Sugar	Bile salt	Pus cell	WBC	RBC	Epithelial Cell	Casts	Crystal	Bacteria/yeast
1	Pale yellow	Acidic	Putrified	Hazzy	Present	Absent	Absent	12-14	7-8	Absent	10-12	Absent	Absent	Occasional
2	Yellow	Acidic	Putrified	Turbid	Present	Absent	Absent	15-16	9-10	Absent	8-12	epi cast	Absent	Occasional
3	Pale yellow	Acidic	Putrified	Turbid	Present	Absent	Absent	8-10	6-8	Absent	10-12	Absent	Absent	Occasional
4	Red	Acidic	Putrified	Hazzy	Present	Absent	Absent	17-18	6-8	12-16	4-5	RBC	Absent	Occasional
5	Yellow	Acidic	Putrified	Turbid	Present	Absent	Absent	10-12	7-8	Absent	4-5	Absent	Absent	Occasional
6	Pale yellow	Acidic	Putrified	Turbid	Present	Absent	Absent	4-5	3-4	Absent	4-5	Absent	Absent	Occasional
7	Pale yellow	Acidic	Putrified	Turbid	Present	Absent	Absent	8-9	6-7	Absent	5-6	Absent	Absent	Occasional
8	Milky	Acidic	Putrified	Cloudy	Present	Absent	Absent	8-10	10-12	Absent	7-8	Absent	Absent	Occasional
9	Pale yellow	Acidic	Putrified	Clear	Present	Absent	Absent	3-4	2-3	Absent	2-3	Absent	Absent	Occasional
10	Pale yellow	Acidic	Putrified	Turbid	Present	Absent	Absent	7-8	3-4	Absent	3-4	Absent	Absent	Occasional

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