

Types of Incontinence

* stress incontinance

- ↳ urine in continance. with increase Intra abdominal pressure
- ↳ common in female

* Urge incontinance

- ↳ urine incontinance
- ⊕ urge sensation to voiding.

* mixed incontinance

- ↳ stress + urge

حالات شائعة مرتبطة بـ symptom أو العرض (أو مظهر) -
جسدي

Dual Therapy -

* unaware of continance

- ↳ Involuntary loss of urine with stress or being aware

* ~~the~~ nocturnal incontinance

diabetic

- ↳ Resolve with maturity

* continuous Incontinance

* Dripping of urine continuously without urge nor stress

- ↳ In fistula ~ vesico vaginal"
- ↳ ectopic ureter ⇒ only female.

* ~~the~~ Youssel's syndrome

- ↳ vesico urine fistula

hematuria و blood في البول و pain في البطن و discharge

act as sphincter

cervix or vesicovaginal fistula

other ureter of kidney
 normal desire
 voiding habit normal
 ectopic ureter of female child -
 complain
 continuous dripping of urine

- ectopic ureter.

usually open distal to sphincter

Approach of Incontinance

* History

Incontinance ①

vesico vaginal fistula = Itrauma & hysterectomy

Severity of Incontinance ②

no. of changing clothes.
wetness -

precipitating factor ③

constipation, cough, sneezing, COPD

urge sensor

CS history. ④

complicated fibs, pelvic floor muscle weakness

Genitourinary conditions (4)

urethral discharge sexual transmitted dz ->

neurological ~~cond~~ history (7)

- numbness, paraesthesia in lower leg
- signs of MS multiple sclerosis
10% of MS first presentation is urinary tract symptom

hx of Radiation (5)

voiding Diarr (1)

voiding (3-7 Days) ^{بسیار زیاد دفعات}

Associated symptoms ^{همراهی}

episodes incontinence - ^{بسیار}
urgency ^{فوری}

Fluid Intake ^{بسیار}
type & amount & time

Bowel habit ^{بسیار} $\Rightarrow$ constipation. $\Rightarrow$ abdominal pressure ^{بسیار زیاد}

Bld sugar

- Examination

male ves. ZDB -
 مذكر ZDB -
 مذكر ZDB -

① Stress Incontinence / post radical prostatectomy

nerve injury

② Intrinsic sphincter deficiency

post radical prostatectomy Recommendation

① Definite Tx delay till one year

Recurrence of malignancy.

Best Response occur with Artificial urinary sphincter

② Overactive bladder

Secondary to Intra vesical males also urge incontinence

lead to - hypertrophy of Detrusor M. in response to obstruction.

Tx ⇒ Incontinence after obstruction

Retention of urine anticholinergic

Resistance to anticholinergic

precautions to take anticholinergic

① Risk of Retention

② post residual volume in patient $< 150 - 200$

④

Investigation

کد مرفوع (۱) حالت (۲) فاعل

Simple Investigation

↳ Urine analysis

Detection, blood ^{stone} malignancy, ^{kidney} Function

↳ CBC Leukocytosis.

↳ Imaging

→ stricture in urethra ⇒ Retrograde urethrogram

→ urethral diverticulum ⇒ MRI.

Common in ♀

→ Incontinence due to Intraurethral obstruction due to prostate

↳ Intraabdominal US ⊕ post void Residual urine

آسیب دیدگی در بخش بزرگ ریه بعد از جراحی
upper tract effect on lower tract
hydro-nephrosis

overflow Incontinence due to obstruction of ureter

پایه های

⇒ Urodynamic

⊕ accurate diagnostic tool for urinary incontinence

دلیل

Certain Indication

بزرگ شدن ریه

① symptom Daily

② no response to empirical Tx

③ planning to surgery

③ Q max 20 mL/sec → normal
maximum velocity of urine stream

Anti chlamydia & gonorrhea < 10-5
7x

- Examination in female incontinence.

(pre)

① verbal consent

② chaperon

③ lithotomy position

④ adequate light.

vagina → atrophic vaginitis
- erythema
- sexual dz discharging
- cystocele
urethra → urethral hypermobility

stress incontinence +
urethral hypermobility

test for urethral hypertrophy in lithotomy position

called cotton swab test
" Q tip test"

straining with cotton swab urethra
change of axis

> 30° straining or Rest no change or

→ positive for urethral hypermobility

pelvic floor m: weakness

Management of urge Type

3 lines of Treatment.

- ① Non Invasive
 - Behavioral
 - pharmacological.
- ② minimal Invasive approach
- ③ Invasive approach

- Behavioral ناتج من العلاج

- ① voiding diary
- ② avoidance to precipitating factor
- ③ Time voiding.
- ④ Bladder Re-Training
 - urge control
 - kegel exercise.

→ every day.

→ 3 sets

إذا لم يفلح هذا العلاج واصل بغيره

3 مرات في اليوم (صبح، مساءً، الليل)

معدة 8-12 contractions كل 3-4 ساعات

"EMG" Bio feedback extreme age

pathes around anal sphincter.

• 2/3 contraction (دقائق)
 1/3 contraction, up to 10 minutes

⑤ at loss ex
 → avoid Drugs

stimulation ↑ tone
 α₁ receptor

• antispasmodic

Drugs

α -receptor ^{agonist} proximal urethra + bladder neck



α_{1a} Receptor subtype.

↳ stimulate $\Rightarrow$ contraction $\Rightarrow$ outflow ^{low}

↳ blocker $\Rightarrow$ $\downarrow$ tone $\Rightarrow$ stress incontinence

In bladder

↳ M_3 receptor, B_3 receptor "symp"

u.a. $\downarrow$
 M_3
effect, $\Rightarrow$ $\downarrow$ tone

$\downarrow$
stimulate $\Rightarrow$ relax bladder

$\downarrow$
stimulate $\Rightarrow$ contraction

Anticholinergic $\Rightarrow$ Relax bladder $\rightarrow$ prevent urgent incontinence

Retention & overflow = side effect drug

⑦ Avoid constipation

⑧ volume overload
~~Diarrhoea~~ $\Rightarrow$ $\rightarrow$ $\downarrow$ tone, $\downarrow$ flow, $\downarrow$ tone, $\downarrow$ flow

pharmacological

M₃ Receptor

= (A) Anticholinergic

↳ prevent release of ACh

↳ ↓ contractility

selective vs non selective M₃ receptors

M₁ → brain
M₂ → heart
M₃ → eye, salivary gland, heart, intestine, bladder

Anticholinergic

Selectivity

↳ non
↳ moderate
↳ highest

3rd Amine → BBB
Quaternary amine → not

Traspium not 3rd amine

Selectivity vs non selective

Oxybutynin is a drug with selectivity
non selective

only anticholinergic
safe in pediatric age.

Tolterodine ⇒ non selective

Solifenacin ⇒ modest selectivity

Darifenacin ⇒ highest selectivity

Side effect of anticholinergic

Brain $\Rightarrow$ Cognitive Dysfunction

Heart $\Rightarrow$ Tachycardia

Mouth $\Rightarrow$ dry mouth

eye $\Rightarrow$ mydriasis, Blurred vision

Intestine $\Rightarrow$ Constipation

bladder $\Rightarrow$ Retention

Contraindications

- (1) heat retention
- (2) severe myocardial depression
- (3) narrow angle glaucoma
- (4) myasthenia Gravis
- (5) intestinal obstruction

(2) B₃ agonist

stimulate $\Rightarrow$ Relax of Detrusor $\Rightarrow$ promotion of filling
 (incontinence. U) $\Rightarrow$ +

* mirabegron

* Uibegron

* minimally Invasive. B₃ agonist
 urge U; 2 options
 minimal or non U response stress U
 Invasive.

2 options

⊕ Intra detrusor Injection of Botox $\rightarrow$ anticholinergic. $\rightarrow$ Neuro modulation

- onabotulinum toxin

- Inject in muscle.

- prevent release of ACh in neuromuscular Junction.

- Time Duration of benefit 6-12 month

- Do in neurogenic element ex MS, parkinson

200 unit in 30 site.

- side effect 1 - m.c. side effect $\Rightarrow$ UTI
 2 - Retention

multiple sclerosis $\rightarrow$ $\frac{7.31}{10}$ $\rightarrow$ 10, 10% of population is normal population $\sim$ $\frac{16}{100}$

~~Diabetic~~

3 - when inject in vein $\rightarrow$ absorption by body $\rightarrow$ circulation $\rightarrow$ difficulty in breathing

* Neuro modulation

Initial nerve  nerve  nerve  
 (site) post to medial malleolus 2 cm
 & above 5 cm

Direct stimulation of S3

Implant Device
 Temporary Generator & pulse

* Invasive < Augmentation
 Guided

minimal   non-invasive       

* Augmentation < Auto Augmentation -> limited benefit
 heterocystoplast

Bladder         
 ileocecal valve         

Disadvantage => secretion & absorption
 Glyperchloremic, hypokalemic metabolic Acidosis

=> mucus -> infection, mucus plug

=> spontaneous rupture of bladder

=> malignant transformation of anastomosis line

(2) Diversion.

الجزء . الثاني من diversion ال

ileal cholec.

segment of intestine connect bladder ~~skin~~

(Tx)

stress

* Behavioral

* Therapeutic

inhibitor

Drug

↳ No rule

in Anticholinergic

- α -agonist

→ pseudoephedrine

→ phenyl ephrine

→ [mipramine $\Rightarrow$ TCA

$\Rightarrow$ Duloxetine

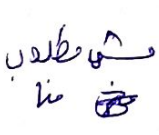
↳ **SRHI**

↳ side effect: suicidal attempt

* minimal Invasive approach.

↳ minimal Injection of bulking agent

In Submucosa

↳ macroplasty $\Rightarrow$ 

- 4

↳ trans urethral collagen remodeling.

time 1 min

↳ derosol 4 needles 

up needle

36

Benefit : Denaturation of collagen

↳ less elastic ~~resistant~~

↳ $\uparrow$ outlet Resistance.

* Invasive

1) Best response.

In male $\Rightarrow$ artificial sphincter

In female $\Rightarrow$ to prevent urethral displacing

perineal perineal tissue & perineum of symphysis pubis

side effect

$\hookrightarrow$ osteitis pubis

perivesical tissue connect to corpus lig

synthetic midurethral sling

45 cm tube. ep: urethra

trans obliterating tape TOT

ant vaginal wall

Descent

side effect : fibrosis later on

Artificial sphincter