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Case No. 1

Medical History:

A 35 year old male with a medical history of an open ureterolithotomy performed in order to remove a left distal ureteral stone 10 years ago. One month ago he suffered from a right acute pyelonephritis with right flank pain, fever of 39°C, and urine culture was positive for E. Coli. He was treated with antibiotics for a month, and current urine culture is negative. Physical examination is unremarkable.

Images:

KUB: No evidence of pathology.

IVP: Distal ureteral obstruction.

US: Ultrasound shows right hydronephrosis and a dilated upper ureter.

Biological Tests:

Blood Tests:

Leukocytes:	9,900/mm ³	(4,000-10,000)
RBC:	4.3 tera/L	(4.2-5.6)
Hgb:	12.4 g/dL	(13-17)
Hct:	35.3%	(40-54)
PLT:	398,000/mm ³	(150,000-400,000)
Na:	135 mmol/L	(135-145)
K:	4.1 mmol/L	(3.5-5.0)
INR:	1.0	(0.88-1.2)
PTT:	100%	(70-100)
Potassium:	4.2 mEq/L	(3.6-5.0)
Creatinine:	0.8mg/dL	(0.8-1.5)

Urine Tests:

Culture:	Negative	
Leukocytes:	100,000/mL	(<8,000)

Main Tasks:

Rigid ureteroscopy
Identify the nature of the stricture.
Safely open the stricture endoscopically.



Created in collaboration with Prof. Thierry Flam, Department of Urology, Hospital Cochin, Paris, France. Symbionix Ltd. (2001)



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Case No. 2

Medical History:

A 59 year old male is suffering from right chronic flank pain. Two months earlier an ureteroscopy was performed for an 8x7 mm stone.

Images:

KUB: No stones or pathologies are seen.

IVP: A short right lumbar stenosis is seen.

Biological Tests:

Blood Tests:

WBC:	5.4 giga/L	(4.25-10.5)
RBC:	4.3 tera/L	(4.2-5.6)
Hgb:	8.8 g/dL	(8.1-17.7)
Hct:	42%	(38-52)
PLT:	240 giga/L	(150-400)
Na:	138 mmol/L	(135-145)
K:	4.3 mmol/L	(3.5-5.0)
Ca:	2.5 mmol/L	(2.15-2.75)
INR:	1.05	(0.88-1.2)
PTT:	92%	(70-100)
Creatinine:	93 μ mol/L	(59-115)

Urine Tests:

pH:	7.0	(6.5-7.4)
Nitrite:	Negative	
Leukocytes:	1,000/mL	(<8,000)
Erythrocytes:	100/mL	(<3,000)
Culture:	Negative	

Main Tasks:

Ureteroscopy

Safely open a lumbar stricture endoscopically.



Created in collaboration with Prof. E. Lechevallier,

Department of Urology, Salvator Hospital, Marseille, France. Symbionix Ltd. (2001)



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Case No. 3

Medical History:

A 52 year old male was admitted to emergency room for right renal colic. His medical history includes an open ureterolithotomy performed 6 months ago to remove an obstructing ureteral stone that failed ESWL treatment and one ureteroscopy attempt.

Images:

KUB: No evidence of stone.

IVP: Delayed secretion to right side and mild uretero-hydronephrosis due to a mild ureteral stricture.

Biological Tests:

Blood Tests:

WBC:	9.7 giga/L	(4.25-10.5)
RBC:	4.4 tera/L	(4.2-5.6)
Hgb:	14.0 g/dL	(8.1-17.7)
Hct:	39.4%	(38-52)
PLT:	380 giga/L	(150-400)
Na:	139 mmol/L	(135-145)
K:	3.5 mmol/L	(3.5-5.0)
Cl:	99 mmol/L	(95-105)
INR:	1.07	(<2.0)
Creatinine:	105 µmol/L	(59-115)
Blood Culture:	Negative	



Urine Tests:

Urine Culture:	Negative	
Urea:	6.8 mmol/L	(3.0-8.0)

Main Tasks:

Identify the nature of the stricture.

Safely open the stricture endoscopically.

Created in collaboration with Prof. Thierry Flam, Department of Urology, Hospital Cochin, Paris, France. Symbionix Ltd. (2001)



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Case No. 4

Medical History:

A 35 year old male suffering from chronic right flank pain which worsens with movement. Physical examination is normal.

Images:

KUB: No stones or pathologies are seen.

IVP: Right hydronephrosis.

Retrograde Pyelography: 1) Good flow from the UPJ, 2) Stricture at the UVJ, 3) Retrograde distal.

Biological Tests:

Blood Tests:

Hgb:	12.5 g/dL	(13.5-18.0)
Potassium:	3.1 mmol/L	(3.6-5.5)
Creatinine:	1.2 mg/dL	(0.8-1.5)
Sodium:	131 mmol/L	(137-145)
Urea:	38 mg/dL	(19-43)

Urine Tests:

RBC:	Positive
WBC:	Negative
Culture:	Negative

Main Tasks:

Look at the UPJ evaluation of stenosis.

UVJ stenosis: Endoureterotomy and balloon dilation of the UVJ.



Created in collaboration with Dr. Yoram Siegel,

Department of Urology, Assaf Harofe Medical Center, Israel. Symbionix Ltd. (2001)



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Case No. 5

Medical History:

A 36 year old male has been suffering from increasing right flank pain during the last 6 months. The pain increases after drinking beer. He has no fever, no signs of infection and the physical examination is normal.

Images:

KUB: No stones or pathologies are seen.

IVP: Right UPJ obstruction.

Retrograde pyelography: UPJ stricture.

Biological Tests:

Blood Tests:

Hgb:	15.0 g/dL	(13.5-18.0)
Calcium:	8.0 mg/dL	(8.4-10.2)
Potassium:	3.8 mmol/L	(3.6-5.5)
Creatinine:	0.8 mg/dL	(0.8-1.5)
Sodium:	135 mmol/L	(137-145)
Urea:	40 mg/dL	(19-43)

Urine Tests:

RBC:	Positive
WBC:	Negative
Culture:	Negative

Main Tasks:

UPJ stenosis: Safely open the stricture endoscopically.
Balloon dilation of the UPJ.



Created in collaboration with Dr. Yoram Siegel,

Department of Urology, Assaf Harofe Medical Center, Israel. Symbionix Ltd. (2001)



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Case No. 6

Medical History:

A 43 year old male had open left pyeloplasty performed 12 years ago because of symptomatic primary stage 2 UPJO. He is now hospitalized with renal pain and a urinary tract infection.

Images:

KUB: No evidence of pathology.

IVP: Second grade secondary left UPJO.

Retrograde Pyelogram: Left tortuous ureter.

Biological Tests:

Blood Tests:

WBC:	11.0 giga/L	(4.25-10.5)
RBC:	4.5 tera/L	(4.2-5.6)
Hgb:	13.0 g/dL	(8.1-17.7)
Hct:	42%	(38-52)
PLT:	300 giga/L	(150-400)
Na:	140 mmol/L	(135-145)
K:	4.0 mmol/L	(3.5-5.0)
Ca:	204 mmol/L	(2.15-2.75)
INR:	1.1	(<2.0)
PTT:	100%	(70-100%)
Creatinine:	70 mmol/L	(59-115)

Urine Tests:

pH:	7.2	(6.5-7.4)
Nitrite:	Negative	
Leukocytes:	5,000/mL	(<8,000)
Erythrocytes:	2,000/mL	(<3,000)
Culture:	Negative	



Main Tasks:

- Ureteral navigation
- Ureteroscopy
- Safely open the stricture endoscopically.
- Balloon dilation

Created in collaboration with Prof. E. Lechevallier,

Department of Urology, Salvator Hospital, Marseille, France. Symbionix Ltd. (2001)



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Case No. 7

Medical History:

A 28 year old male suffering from acute left flank pain for the past 24 hours. The patient has a history of nephrolithiasis S/P; post right PCNL for staghorn calculus.

Images:

IVP: Narrowing of the left midureter at L5, proximal ureteral dilation, and calyces stasis

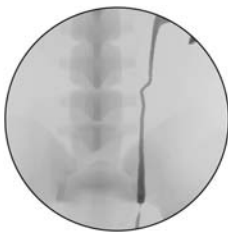
Biological Tests:

Blood Tests:

WBC:	4.9*10 ³ U/L	(4.1-10.9)
RBC:	4.07*10 ⁶ U/L	(4-5.2)
Hgb:	11.7 g/dL	(12.0-5.2)
Hct:	35%	(37-46)
PLT:	150*10 ³ U/L	(140-440)
Na:	140 mmol/L	(136-143)
K:	3.9 mmol/L	(3.6-5.0)
Ca:	9.5 mg/dL	(8.9-10.4)
Creatinine	1.2 mg/dL	(0.7-1.4)
INR:	1.0	(<2.0)
PTT:	35 sec	(24.8-35.2)

Urine Tests:

PH:	5.5	(4.5-8.0)
Nitrite:	Negative	
Leucocytes:	0-4/ HPF	(0-4)
Erythrocytes:	None/HPF	(0-5)
Urine Culture:	Negative	



Main Tasks:

Repair stricture endoscopically by incising anterior to iliac vessels and carrying incision into periureteral fat both proximal and distal to area of stricture, into normal ureter.

Created in collaboration with Associate Professor Margaret S. Pearle, Department of Urology, The University of Texas Southwestern, Dallas.



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Case No. 8

Medical History:

A 41 year old male suffering from acute renal pain. He has no fever and no flank tenderness.

Images:

KUB: 10x7 mm left kidney stone is seen.

IVP: Grade 2 left UPJ obstruction is seen.

Biological Tests:

Blood Tests:

WBC:	9.0 giga/L	(4.25-10.5)
RBC:	4.8 tera/L	(4.2-5.6)
Hgb:	14.0 g/100mL	(8.1-17.7)
Hc:	43%	(38-52)
PLT:	250 giga/L	(150-400)
Na:	138 mmol/L	(135-145)
K:	3.7 mmol/L	(3.5-5.0)
Ca:	2.35 mmol/L	(2.15-2.75)
INR:	1.1	(<2.0)
PTT:	98%	(70-100)
Creatinine:	98 mmol/L	(59-115)

Urine Tests:

pH:	7	(6.5-7.4)
Nitrite:	Negative	
Leucocytes:	5,000/mL	(<8,000)
Erythrocytes:	10,000/mL	(<3,000)
Urine Culture:	Negative	

Main Tasks:

Kidney navigation
Safely open the stricture endoscopically.
Calculus fragmentation and extraction.
Learning to handle the tools.



Created in collaboration with Prof. E. Lechevallier, Department of Urology, Salvator Hospital, Marseille, France. Symbionix Ltd. (2000)