

EPIDEMIOLOGY OF NEPHROPATHIES IN IRREGULAR IMMIGRANTS IN NORTHERN ITALY

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INTRODUCTION AND AIM OF THE STUDY

Free movement within the European Union is granted by the Schengen Agreement. Transnational trips are expected to increase in 2014 with the possible addition of Romania and Bulgaria to the Schengen area. The World Health Organization stated that "there is a need to assess trends in migrants' health by improving country health information systems, which can help identify and fill gaps in service delivery". Data regarding the incidence of specific nephropathies in immigrants are lacking.



Incidence of kidney disease in sub-Saharan Africa is estimated around 10.8%, but epidemiologic studies are lacking.

Country	Total population (millions)	AKI per 100,000 per annum	ESRD incidence per 100,000 per annum	Total patients on dialysis per 100,000 per annum	Alive patients	End-stage patients
Algeria	33.4	1000	24	78.5	0	0
Egypt	65.8	1000	24	78.5	0	0
Libya	5.5	1000	200	30.0	1	133
Morocco	34.0	1000	130	400.0	14	0
Tunisia	10.0	1000	60	10.0	0	0

Aim of our study was to evaluate the prevalence of renal disease in irregular immigrants in Turin coming to ISI facilities of our hospital (Informazione Salute Immigrati – Health Information for Immigrants).

METHODS

A 7 language questionnaire-based survey (Fig. 1) was administered regarding signs, symptoms and familiarity for renal disease. The study also included direct assessment of GFR with EPI equation, urinalysis and blood pressure measurement.

- 1) Serum creatinine (sCr) measurement
- 2) Glomerular Filtration Rate evaluation (EPI formula)
- 3) Urine analysis and sediment
- 4) Arterial blood pressure

Patients were summoned if abnormalities were found

Migr/Mr _____ born ____/____/____
Country _____

1. Have you ever observed your urine of red colour? SI = No =
2. Did you ever have swollen legs? SI = No =
3. Did you have malaria? SI = No =
4. Did you have any infectious disease? SI = No =
5. How many pregnancies had you got? SI = No =
6. Which was your sons weight at birth? SI = No =
7. Have you ever had high blood pressure? SI = No =
8. Do you wake-up during the night to urinate? SI = No =
9. Until what age you were well at night? SI = No =
10. Does urinating hurt anytime? SI = No =
11. Do your bones ever hurt? SI = No =
12. Do your hands ever hurt? SI = No =
13. Do your elbows, shoulder or knee ever hurt? SI = No =
14. Have you had any surgical interventions? _____
15. Did your father, mother, sisters or brothers:
 - A. have kidney disease? SI = No =
 - B. were they ever on dialysis? SI = No =
 - C. have red urines? SI = No =
 - D. have swollen ankles? SI = No =

Turin ____/____/____ Fig.1

The study was sponsored by the Italian Society of Nephrology and conducted in the health reception facility for immigrants of our Hospital from January 2012 to December 2012.

GENERAL CHARACTERISTICS OF THE SUBJECTS

Characteristic	Value
Number	494
Gender	287 women, 207 men
Mean age (years)	36.9±12
Race	316 caucasian, 167 black, 11 yellow
Presence in Italy (ys)	6.2±5.8
Number of children/woman	1-9
Newborn babies low-weight at birth (<2.5 kg)	26
Abortions	166 in 78 women
Infectious diseases	21 (2 HCV, 9 HBV, 9 TBC, 1 HIV, 67 previous malaria)
Diabetic patients	23 (4.6%), 8 with glycosuria, 1 new diagnosis

ELEMENTS REPORTED BY THE PATIENTS

Element	Reported	True
Family history of renal disease	31	2 stones, 2 PKD
Nocturia	170	
Macrohaematuria	50	
Dysuria	90	

NEPHROLOGICAL PARAMETERS

Arterial hypertension (N)	29 (5.8%)
Microhaematuria (N)	55 (16.3%)
Proteinuria (N)	67 (13.5%)
Microhaematuria + proteinuria (N)	15 (3%)
Mean serum creatinine (mg/dl)	0.79±0.25
Mean GFR-EPI (ml/min/1.73mq)	109±23.7
Highest serum creatinine (mg/dl)	3
Serum creatinine >1.3 mg/dl	13 patients (2.6%)
Urinary abnormalities and/or hypertension + serum creatinine >1.3 mg/dl	10 patients (2%)

RESULTS

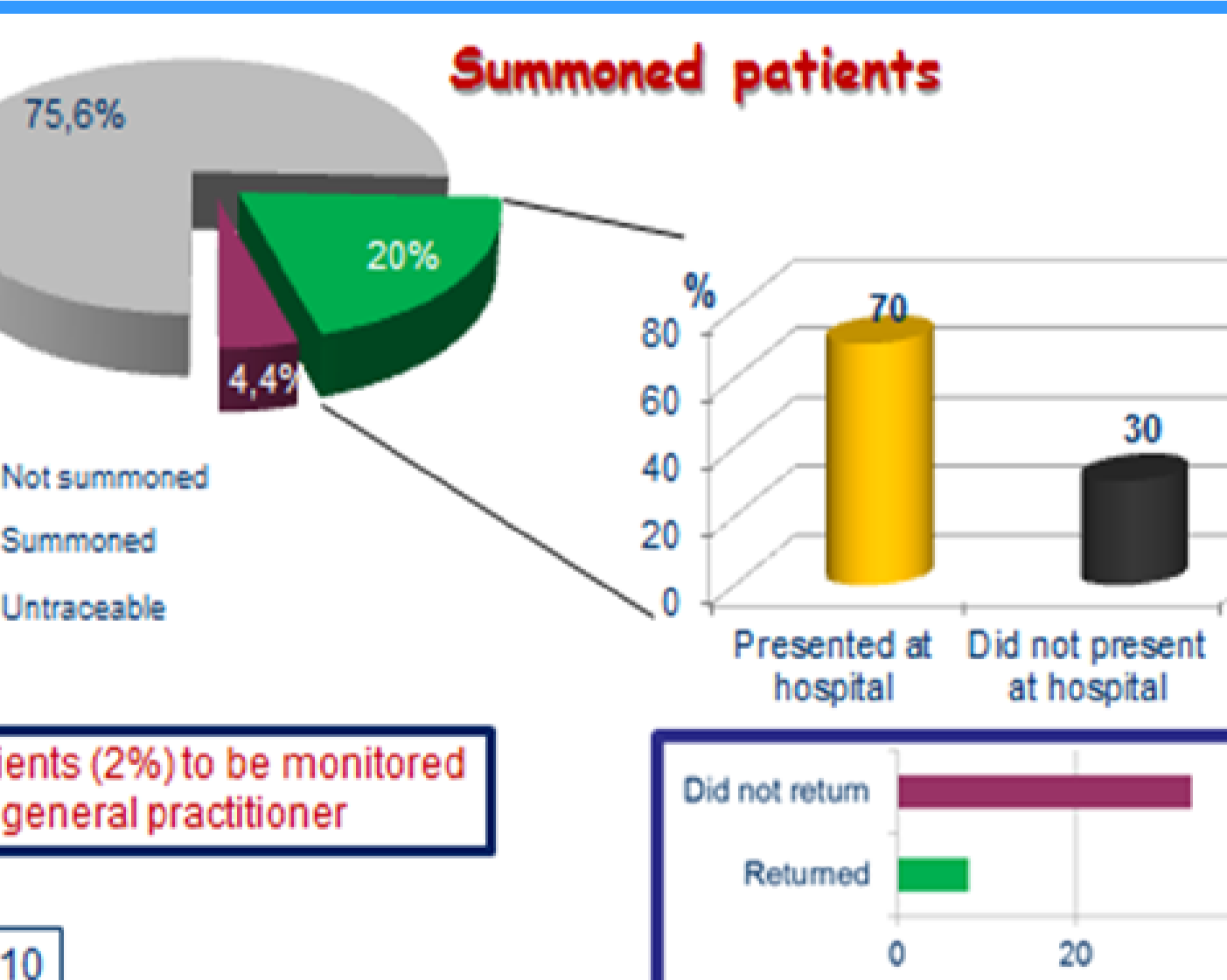
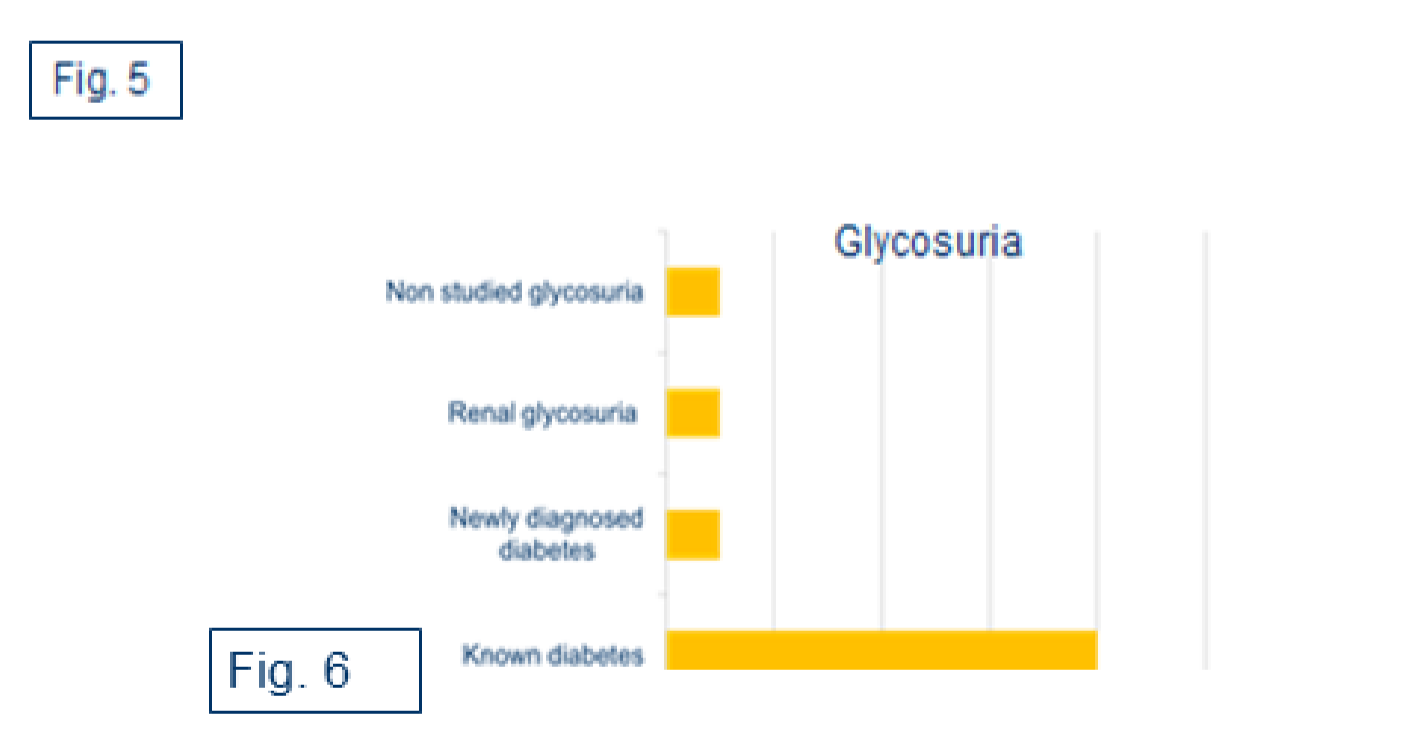
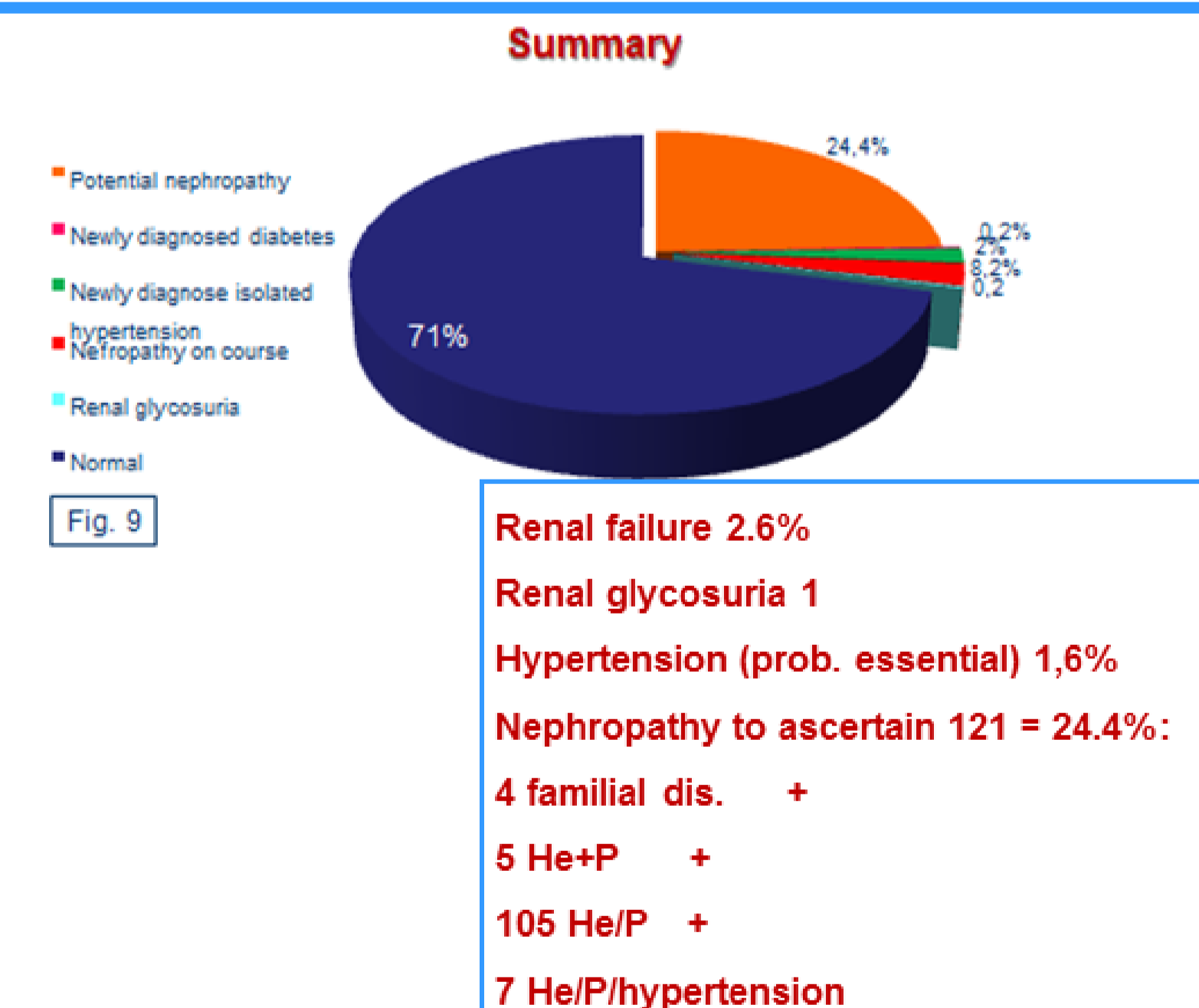
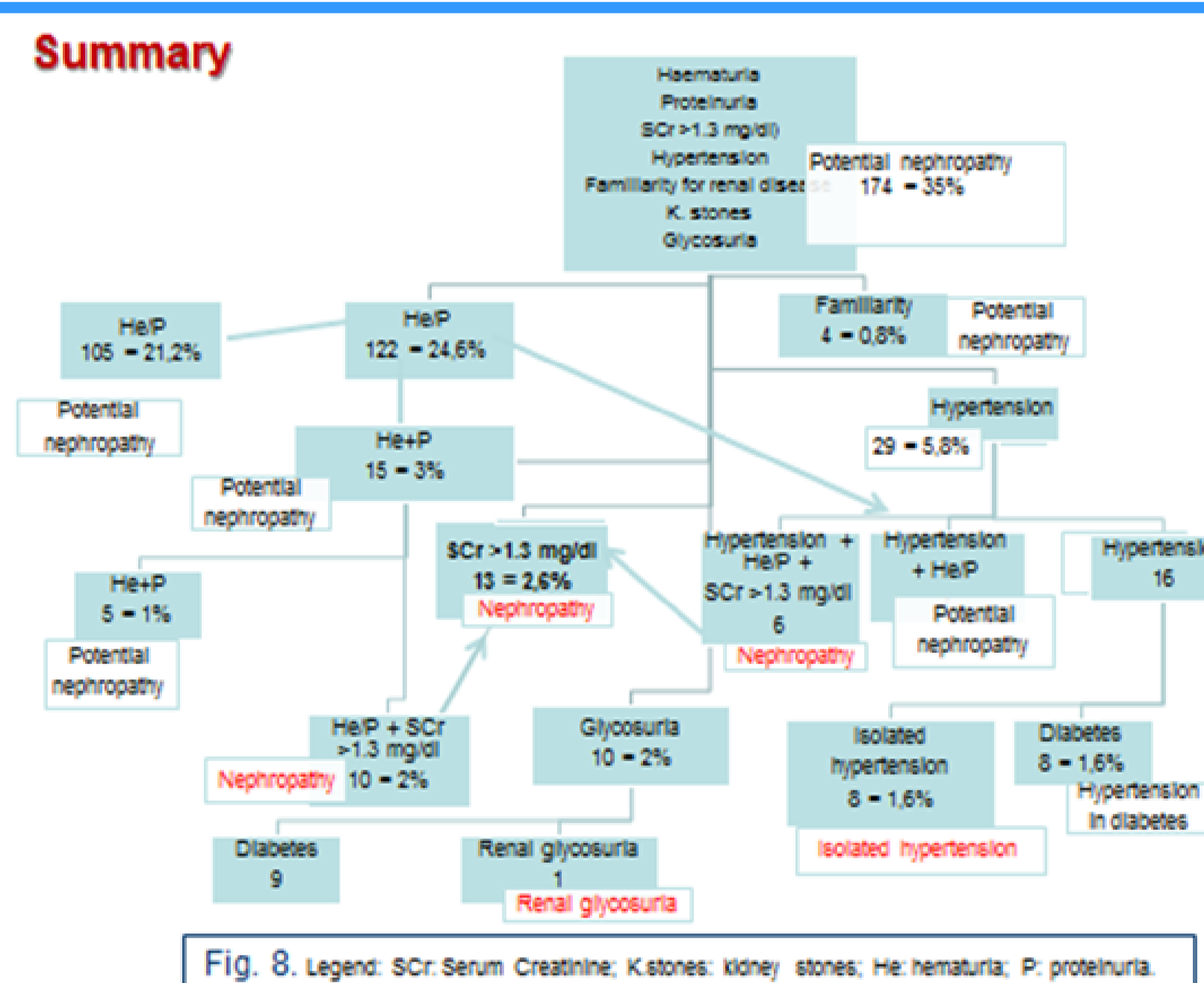
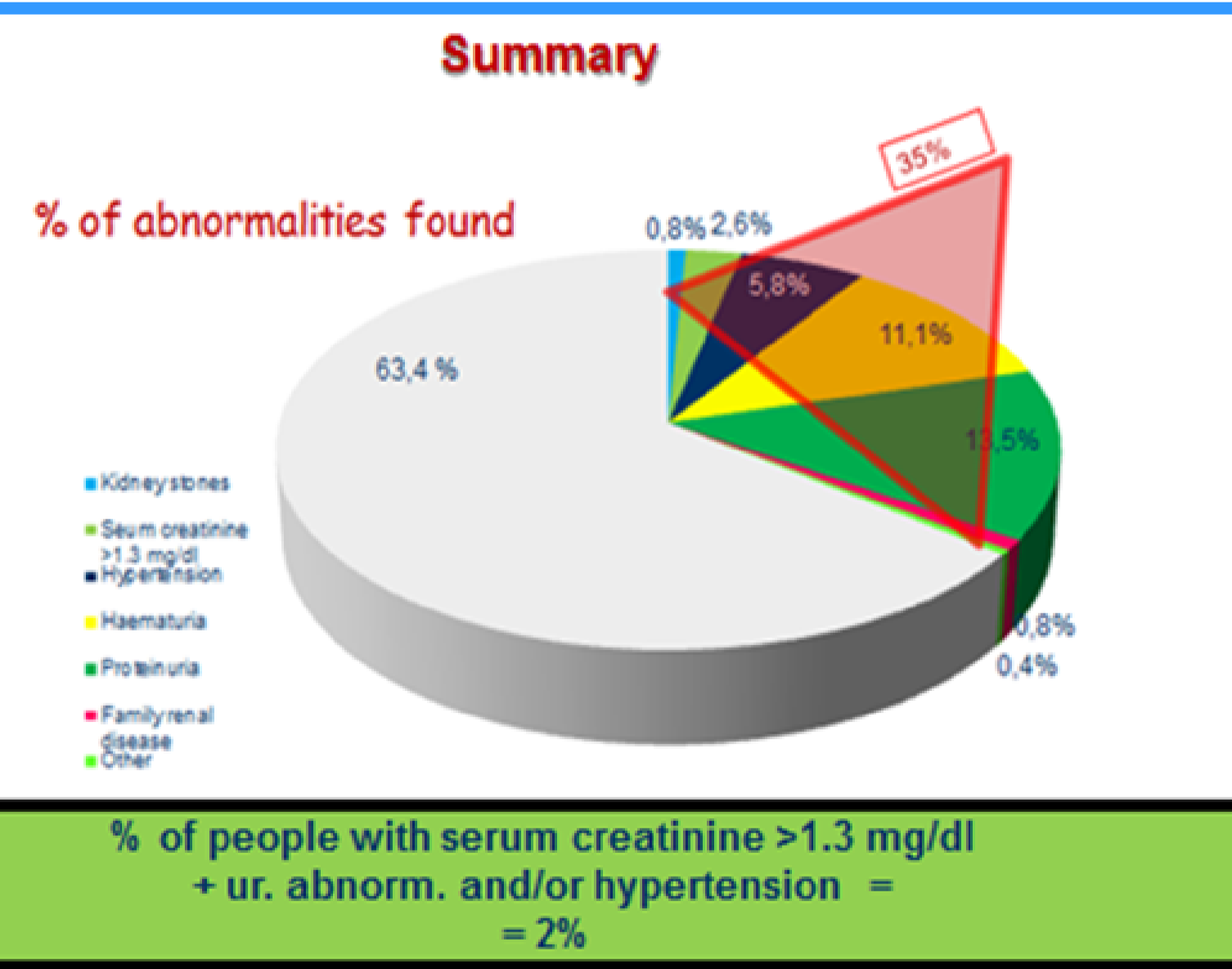
Data regarding 494 irregular immigrants (287 women, 207 men), mean age 36.9±12 years, 167 black, 11 Asians, and 316 Caucasians living in Italy for 6.2±5.8 years, were examined. Four people had familial nephropathies (2 kidney stone diseases, 2 Autosomal Dominant Polycystic Disease).

Arterial hypertension was found in 29 subjects (5.8%). Mean serum Creatinine (sCr) was 0.79±0.25 mg/dl (range 0.6-3 mg/dl), mean GFR-EPI 109±23.7 ml/min/1.73mq. 13 patients (2.6%) presented renal failure (RF), 10 of whom also had urinary abnormalities and/or hypertension. Haematuria was found in 55 subjects (11.1%), proteinuria in 67 (13.5%) and both haematuria and proteinuria (without RF) in 15 (3%).

Eight subjects had glycosuria, one due to previously unknown diabetes and one to renal glycosuria. A case of urinary eggs of Schistosoma mansoni was detected. Four patients had kidney stones.

99 patients (20%) were summoned (30 did not turn up): 41 needed nephrologic follow-up, but only 8 showed up a second time.

OTHER	
Renal glycosuria	1
Schistosomiasis	1
Kidney stones	4



Limits of the study ?

1. Many elements of the survey suggesting a nephropathy, but with low specificity
2. Wariness and reliability of the subjects
3. Single evaluation of urine test
4. Low positivity at dipstick for hematuria/proteinuria

Hence...

- Lack of diagnosis → and of epidemiologic comparison with Italian/European population
- Lack of follow-up
- Impossibility of prevention

CONCLUSIONS

Signs of nephropathy were detected in 116 (23.4%) irregular immigrants, a figure much higher than the epidemiologic expectancy of 39 cases among the Italian population residing in the same area.