

Electronic Supplementary Materials
Drug Safety

Drug-Induced Acute Kidney Injury: A Study from the French Medical Administrative and the French Pharmacovigilance Databases using Capture-Recapture Method

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Inclusion criteria from the PMSI database:

- Stays with an entry date between January 1st, 2017 and December 31st, 2018, in adults;
- With at least one of these recorded ICD 10 codes in main diagnosis or associated diagnosis: N17.0, N17.1, N17.2, N17.8, N99.0, R39.2;
- No opposition to the use of the information collected for research.

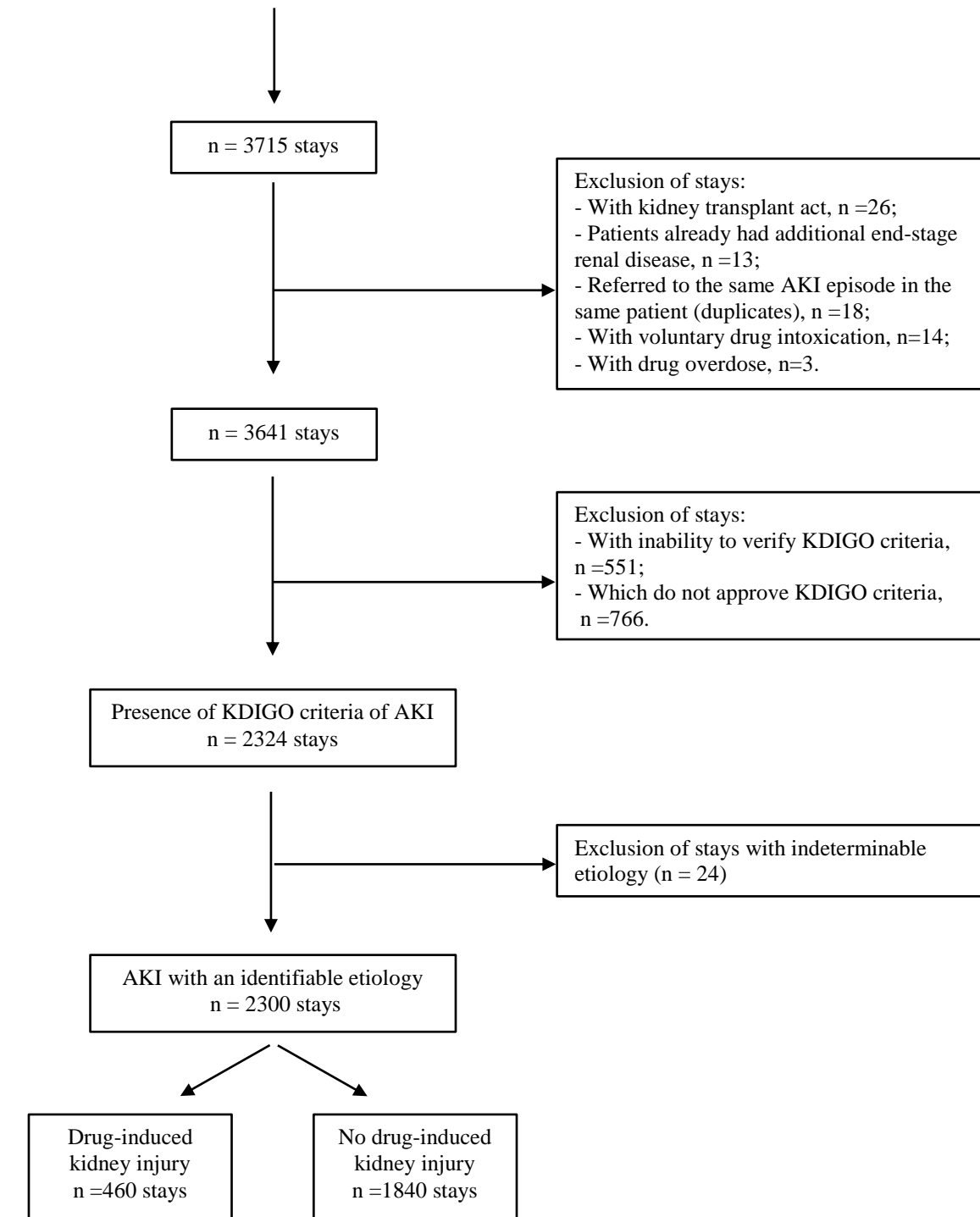


Figure S1 Flowchart of the extraction of stays with DIAKI from the PMSI database

AKI: Acute Kidney Injury; drug-induced acute kidney injury; ICD 10: International Statistical Classification of Diseases 10th Revision; KDIGO: Kidney Disease Improving Global Outcomes; PMSI: French Medical Information System Program

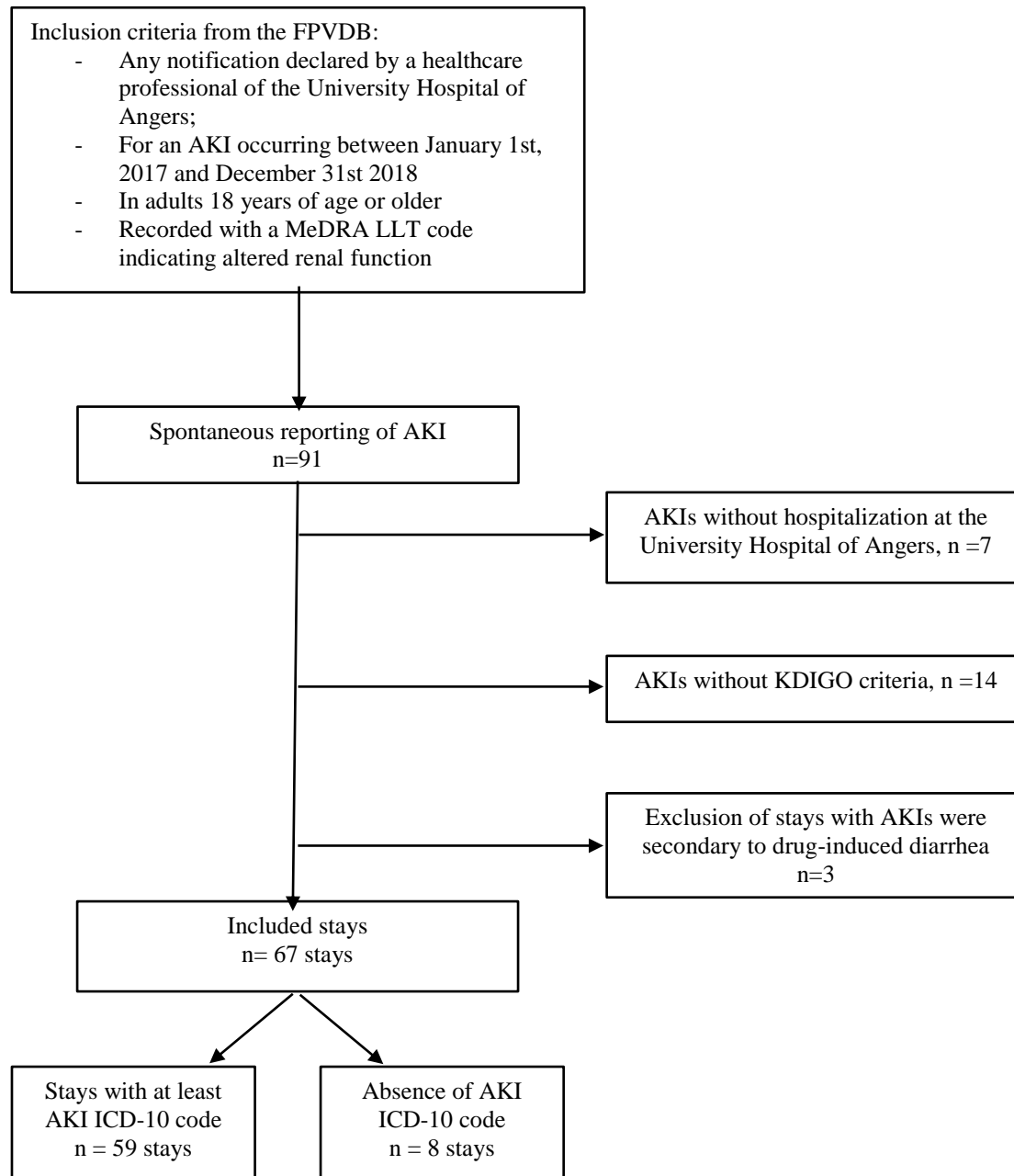


Figure S2 Flowchart of the extraction of stays with DIAKI from the FPVDB request

AKI: Acute Kidney Injury; drug-induced acute kidney injury; ICD 10: International Statistical Classification of Diseases 10th Revision; KDIGO: Kidney Disease Improving Global Outcomes; FPVDB: French Pharmacovigilance Database.

Table S1 ICD-10 codes used for the PMSI database query[1]

ICD-10 Codes	Diagnosis
N17.0	Acute renal failure with tubular necrosis
N17.1	Acute renal failure with acute cortical necrosis
N17.2	Acute renal failure with medullary necrosis
N17.8	Other acute renal failure
N17.9	Acute renal failure, unspecified
N99.0	Postprocedural renal failure
R39.2	Extrarenal uraemia

ICD-10: International Classification of Diseases 10th Revision; PMSI: French Medical Information System Program

Table S2 KDIGO - AKI Classification[2]

Stage	Creatinine Criteria	Urine Output Criteria
1	Creatinine 1.5-1.9 times baseline, OR Creatinine increase >0,3mg/dL ($\geq 26.5\mu\text{mol/l}$) increase	<0.5ml/kg/h for 6-12 hours
2	2.0-2.9 times baseline	<0.5ml/kg/h for ≥ 12 hours
3	3.0 times baseline OR Increase in serum creatinine to $\geq 4.0\text{mg/dl}$ ($\geq 353.6\mu\text{mol/l}$) OR Initiation of renal replacement therapy OR, in patients <18 years, decrease in eGFR to <35ml/min per 1.73 m ²	<0.3 m/kg/h for ≥ 24 hours OR Anuria for ≥ 12 hours

AKI: Acute Kidney Injury; KDIGO: Kidney Disease Improving Global Outcomes; SCr: Serum creatinine

Table S3 Performance of PMSI database queries to detect DIAKIs

	DIAKI N=460	Total sample^a N=3715	Performance^b
ICD-10 codes	N	N	%
AKI code ^c	460	3715	12,4
AKI code + ADR code ^d	80	282	28,4
N17	158	1247	12,7
N17. + ADR code	32	98	32,7
N99.0	128	825	15,5
N99.0 + ADR code	23	45	51,1
R39.2	219	1868	11,7
R39.2+ ADR code	37	171	21,6

ADR : Adverse Drug Reaction; AKI: Acute Kidney Injury; DIAKI: Drug-induced Acute Kidney Injury; ICD-10: International Classification of Diseases 10th Revision; Code N17: Acute renal failure; Code N99: Postprocedural renal failure; Code R39.2: Extrarenal uraemia; PMSI: French Medical Information System Program.

^aSeveral stay summaries included more than one AKI ICD-10 code.

^bPerformance is defined by the percentage of DIAKIs detected by the ICD-10 codes query.

^cAKI ICD-10 codes are N17., N99.0 and R39.2.

^dADR ICD-10 codes are T88.7, and codes starting with Y40. and Y41.

Table S4 Characteristics of patients who required renal replacement therapy

	RRT n=45		No RRT n=423		P Value ^a
	N	%	N	%	
Age >75 years	16	35.6	243	57.4	0.005
Male	32	71.1	256	60.5	0.165
Chronic kidney disease	9	20.0	97	22.0	0.656
Heart failure	11	24.4	131	31.0	0.365
Diabetes mellitus	12	26.7	115	27.2	0.941
Sepsis	19	42.2	79	18.7	<0.001
Two drugs or more suspected in DIAKIs	19	42.2	158	37.4	0.632

DIAKI: Drug-induced Acute Kidney Injury; RRT: renal replacement therapy

^aPearson chi-square tests

References

1. ICD-10 Version:2019. <https://icd.who.int/browse10/2019/en#/>. Accessed 5 Nov 2020
2. KDIGO Clinical Practice Guideline for Acute Kidney Injury (2012). *Kidney International Supplements* 2:1