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Increased Urinary Excretion of Calcium and Nephrolithiasis: real-life data from the Epi-Hypo cohort of Hypoparathyroidism Patients

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CONFLICT OF INTEREST

Jean-Philippe Bertocchio

X I have the following potential conflicts of interest to report:

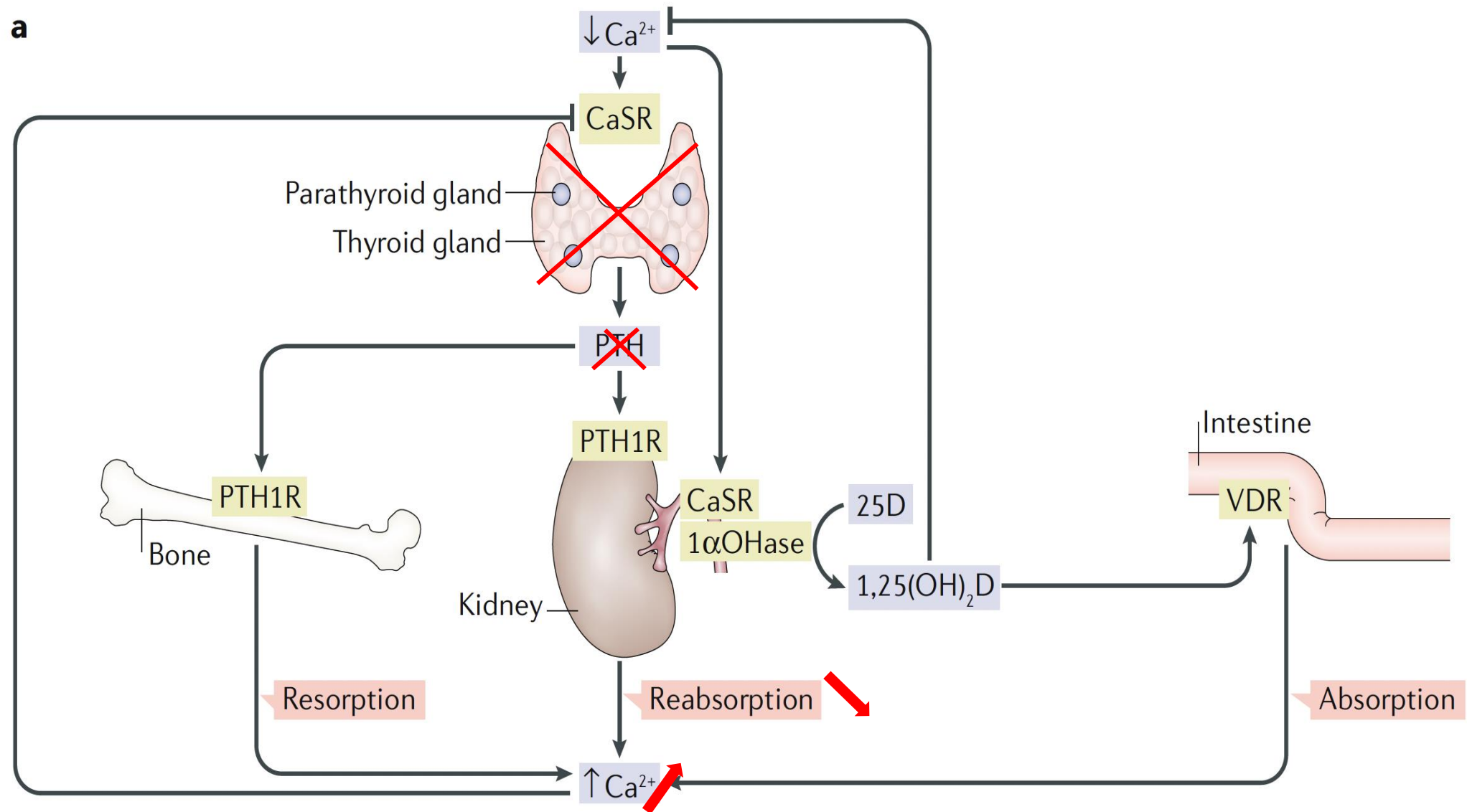
- x Research Contracts : Amolyt
- x Consulting : Amolyt, Ascendis, Takeda
- Employment in the Industry
- Stockholder of a healthcare company
- x Owner of a healthcare company : SKEZI
- Other(s) – *please include details*

No commercial logos or product names to be included please.

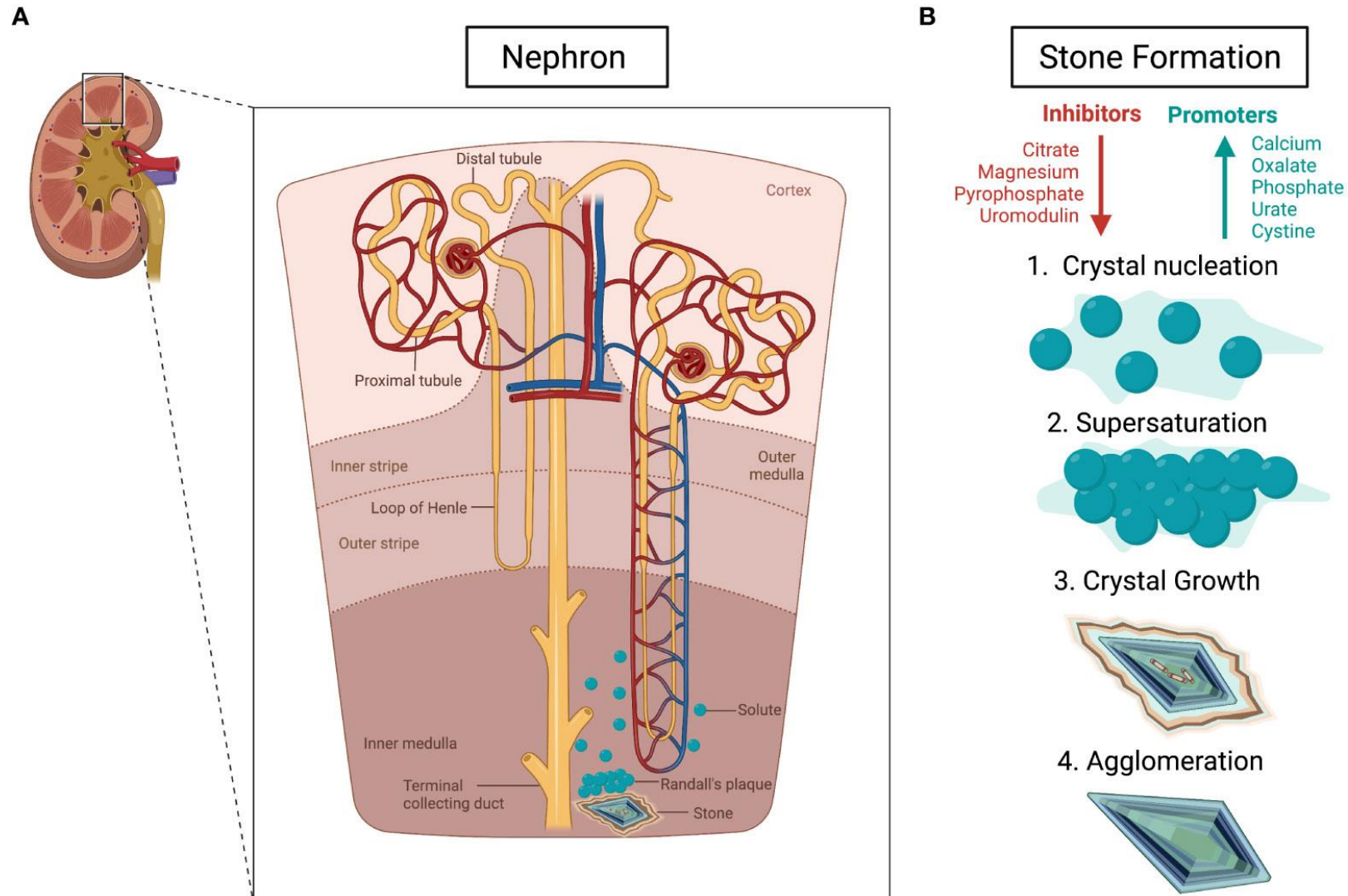
I declare that I have no potential conflict of interest.



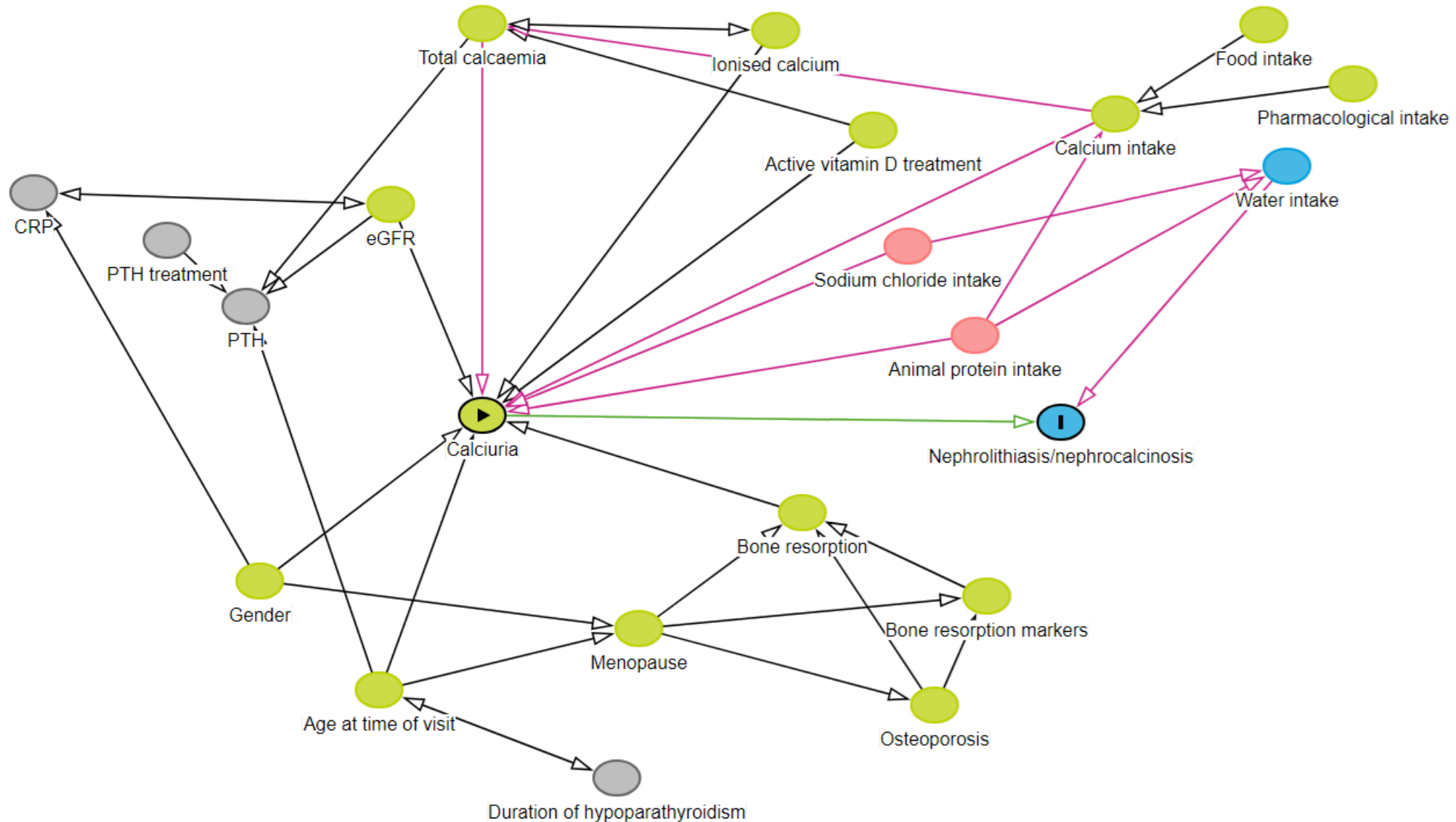
Pathophysiology of hypoparathyroidism (hypoPT)



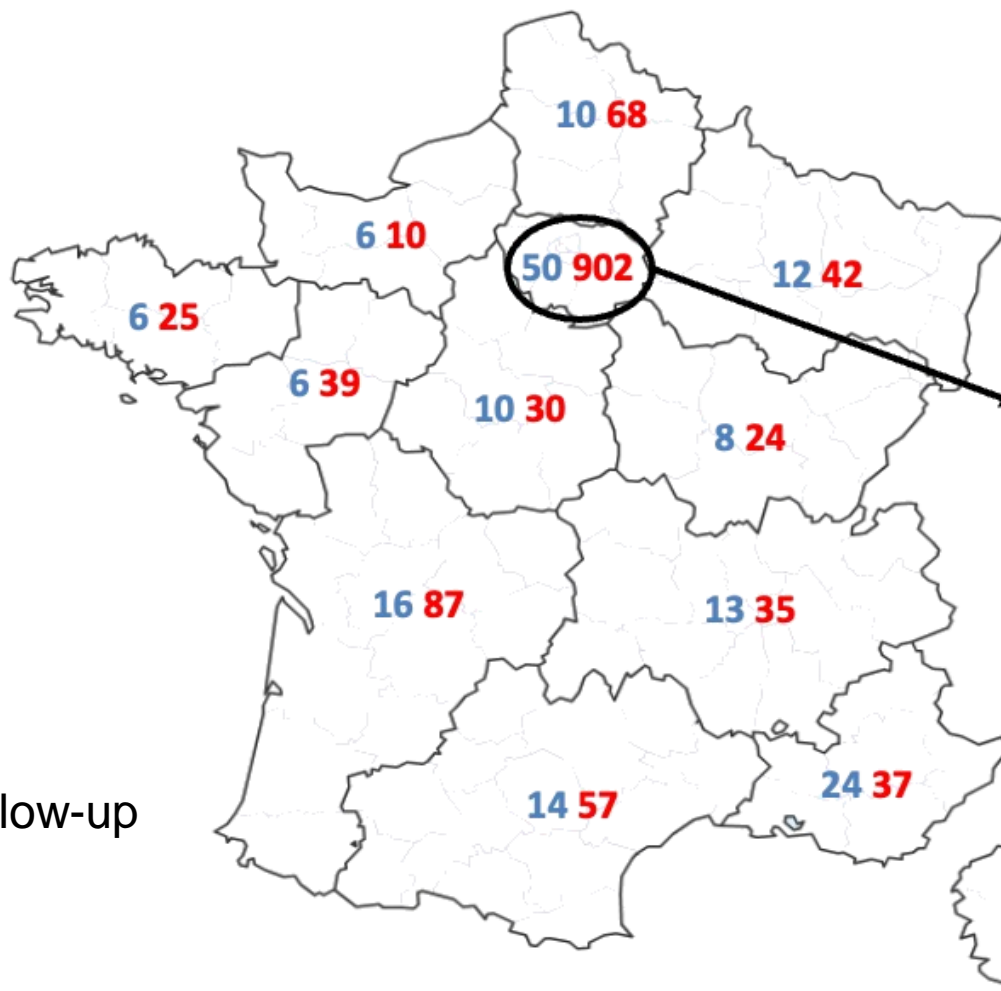
Pathophysiology of nephrolithiasis/nephrocalcinosis



Pathophysiology of nephrolithiasis/nephrocalcinosis



HypoPT in France



- HEGP *n*=468
- KB *n*=91
- Pitié *n*=80
- Cochin *n*=59
- St. Louis *n*=53
- H. Mondor *n*=41
- Tenon *n*=41
- Necker *n*=23
- Lariboisière *n*=22
- Ville *n*=13
- Vill.St-Georges *n*=4
- St. Antoine *n*=3
- Avicenne *n*=2
- Passy *n*=1
- J. Verdier *n*=1

Physicians *n* = 181
Patients *n* = 1,365

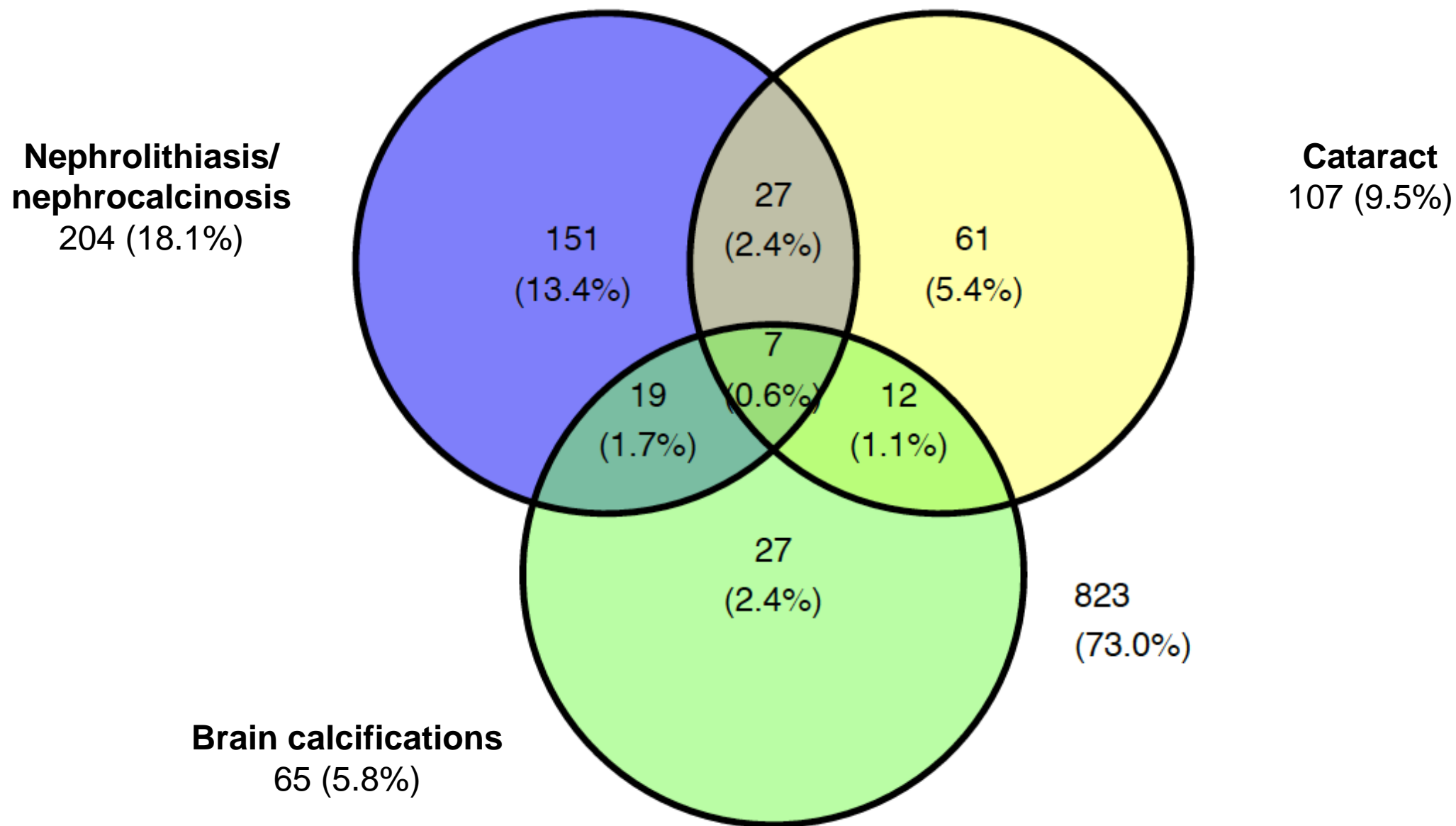
11,177 patient-years of follow-up
71% women
73% post-surgery

Update 04/25/2024

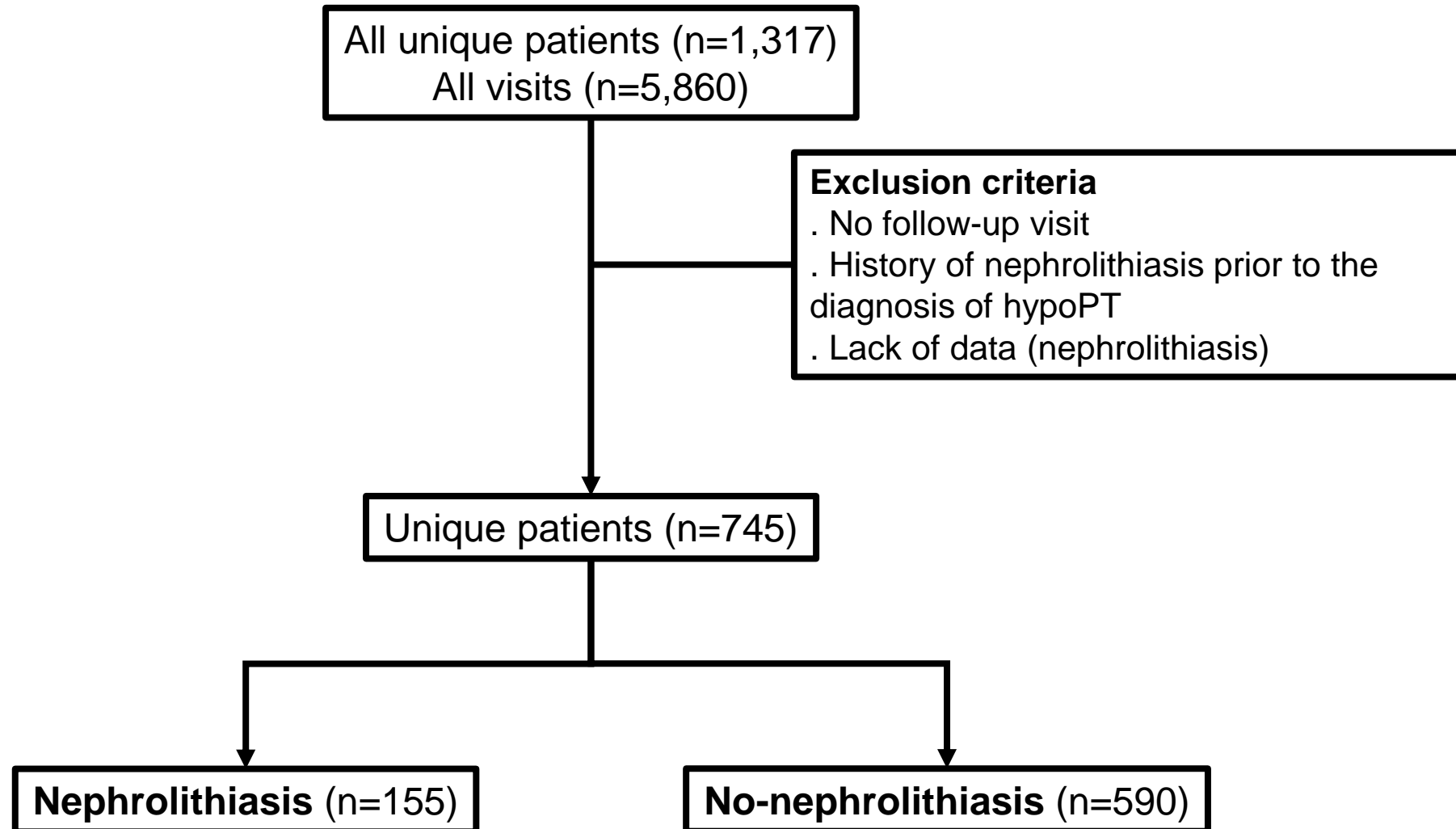
Unpublished data from the Epi-Hypo cohort

JP Bertocchio – ECE2024 – May 2024

Complications during hypoPT



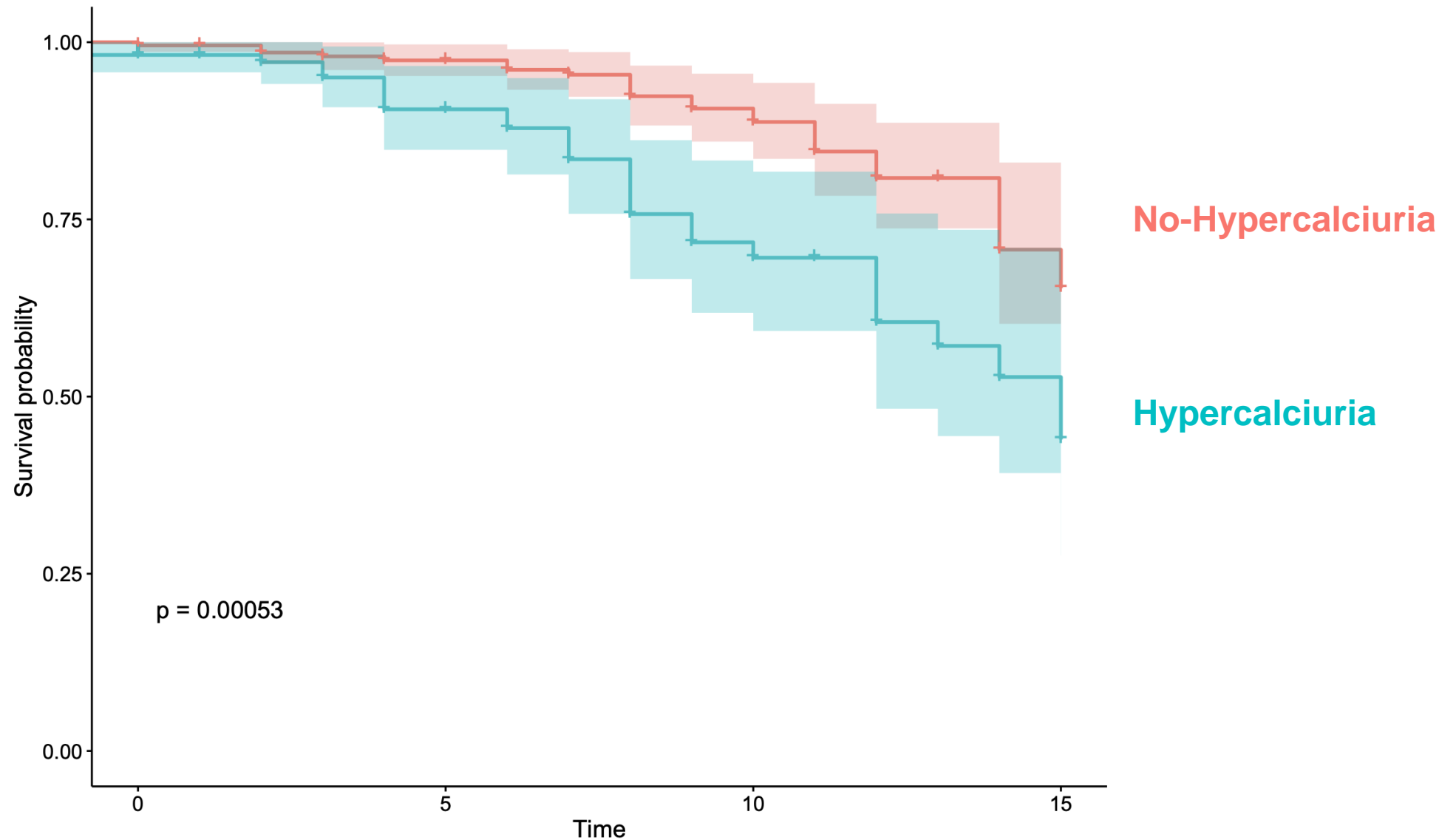
Identifying key drivers of nephrolithiasis in hypoPT



Identifying key drivers of nephrolithiasis in hypoPT

Characteristic	Overall, N = 745	0, N = 590	1, N = 155	p-value
Gender				0.5
Man	211/ 745 (28%)	164/ 590 (28%)	47/ 155 (30%)	
Women	534/ 745 (72%)	426/ 590 (72%)	108/ 155 (70%)	
Age (year)				0.033
Mean (SD)	49.27 (17.53)	50.23 (16.83)	45.62 (19.58)	
Median [IQR]	50.00 [39.00, 62.00]	50.00 [40.00, 63.00]	49.00 [35.00, 60.00]	
Range	0.00 - 90.00	0.00 - 90.00	1.00 - 85.00	
Duration of disease (year)				<0.001
Mean (SD)	8.62 (9.33)	7.62 (8.56)	12.44 (11.02)	
Median [IQR]	6.00 [1.00, 12.00]	5.00 [1.00, 11.00]	10.00 [3.50, 19.50]	
Cause of disease				0.009
Autoimmune/Infiltrative disease	16/ 745 (2%)	10/ 590 (2%)	6/ 155 (4%)	
Inherited disease	94/ 745 (13%)	64/ 590 (11%)	30/ 155 (19%)	
Neck surgery/Radiotherapy	530/ 745 (71%)	433/ 590 (73%)	97/ 155 (63%)	
Other	105/ 745 (14%)	83/ 590 (14%)	22/ 155 (14%)	
Calciuric				0.009
Not hypercalciuria	291/ 440 (66%)	245/ 355 (69%)	46/ 85 (54%)	
Hypercalciuria	149/ 440 (34%)	110/ 355 (31%)	39/ 85 (46%)	
(Missing)	305	235	70	
Parathyroid hormone ratio				<0.001
Mean (SD)	0.24 (0.20)	0.26 (0.21)	0.14 (0.11)	
Median [IQR]	0.19 [0.11, 0.32]	0.21 [0.12, 0.35]	0.12 [0.06, 0.20]	
Range	0.00 - 1.24	0.00 - 1.24	0.00 - 0.46	
(Missing)	399	303	96	
The secretion of parathyroid hormone				<0.001
0.10	82/ 346 (24%)	58/ 287 (20%)	24/ 59 (41%)	
> 0.10	264/ 346 (76%)	229/ 287 (80%)	35/ 59 (59%)	
Calcaemia (mmol/L)				0.091
Mean (SD)	2.10 (0.28)	2.09 (0.28)	2.12 (0.26)	
Median [IQR]	2.11 [1.97, 2.24]	2.11 [1.97, 2.23]	2.12 [1.98, 2.27]	
Range	0.00 - 4.78	0.00 - 4.78	0.55 - 2.95	
(Missing)	37	28	9	
The 24-hour calciuria (mmol/Day)				0.001
Mean (SD)	5.35 (4.02)	5.16 (4.20)	6.13 (3.09)	
Median [IQR]	4.69 [2.50, 7.31]	4.28 [2.23, 7.06]	6.25 [3.65, 8.00]	
Range	0.00 - 38.75	0.00 - 38.75	0.10 - 14.73	
(Missing)	305	235	70	

Identifying key drivers of nephrolithiasis in hypoPT



Take Home Messages & perspectives

- Nephrolithiasis/nephrocalcinosis is observed in **21% of patients** with hypoPT
 - With no history of nephrolithiasis prior to the diagnosis of hypoPT
 - At any time during follow-up
 - Most frequently in inherited forms of hypoPT
 - Information is **missing in 28%** of patients
- Hypercalciuria is strongly associated with nephrolithiasis in this population

Questions that still need to get answers

- What is the lithogenesis in this population?
- Is nephrolithiasis/nephrocalcinosis associated with decreased eGFR?

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