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HOW THE ITALIAN COVID-19 LOCKDOWN AFFECTED NEFROLOGICAL ACTIVITY IN A LOMBARD CENTER

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BACKGROUND AND AIMS: Italy and Lombard hospitals particularly, were hard affected by Covid-19 pandemic, mostly during spring and autumn, seasons characterized by two lockdown periods which were however, partly different as rules. During first lockdown in fact, by hospital decision, all ambulatorial activity was closed, including nephrological one. This did not happen during second lockdown period. How the different choices about hospital activity affected nephrological patients is the aim of this study.

METHOD: we evaluated all nephrological advices requested by first aid units of our 3 hospitals, all located in Lombardy, to our Nephrology Unit, splitting out data in 3 periods (I lockdown, summer and II lockdown) and comparing with 2019. Data collected were: number of advices requested by day, age, sex, previous regular nephrological follow-up, Covid-19 diagnosis, nephrological diagnosis after nephrological advice and outcome.

RESULTS: as shown in table 1, during I lockdown period, with hospital decision of suspending our nephrological ambulatorial activity, we suffered an incremented rate of patients approaching local first aid units compared to 2019 same period with an increased rate of acute kidney injury, mostly for dehydration, and with a higher rate of patients requiring hospitalization. All these differences resulted statistically significant vs 2019 same period (figure 1). On the other side, no statically significant difference was found during the other two examined periods, including the II lockdown, while all our ambulatories were fully operating.

CONCLUSION: Covid-19 pandemic affected also the nephrological population with an increased rate of first aid units' accesses, acute kidney injury events and hospitalization comparing to 2019. However, these differences were detectable only during the I lockdown period characterized by the suspension of all ambulatorial activity, including our Unit. The absence of statistically significant differences during summer and primarily during II lockdown period demonstrates the importance of nephrological ambulatorial activity in management of renal diseases and in prevention of acute events.

		I lockdown (Feb 25-May 17)		Summer (May 18-Sep 20)		II lockdown (Sep 21-Dec 20)	
		2020	2019	2020	2019	2020	2019
First aid advices by day (% of difference vs 2019)		0.62 (+73.3%) (p<0.05 vs 2019)		0.39 (+11.4%)		0.64 (14.7%)	
Age (meant±SD)		79.92±6.58	75.43±16.70	75.31±11.84	76.36±15.62	72.64±14.83	78.32±14.69
Sex	Male	66.0%	56.7%	61.2%	63.6%	41.0%	58.8%
	Female	34.0%	43.3%	38.8%	36.4%	59.0%	41.2%
Regular nephrological follow-up	Yes	42.3%	36.7%	44.9%	59.1%	46.1%	41.1%
	No	57.7%	63.3%	55.1%	40.9%	53.9%	58.9%
Covid	Covid +	42.4%	-	0.0%	-	77.2%	-
	Covid -	57.6%	-	0.0%	-	22.8%	-
Diagnosis	AKI % (of which with history of CKD %)	75% (51.3%) (p<0.05 vs 2019)	53.3% (43.8%)	51.1% (52%)	59.1% (53.8%)	53.9% (47.6%)	73.5% (66%)
	of which						
	Dehydration	64.1%	50.0%	56.0%	67.7%	67.1%	32.0%
	Obstruction	10.3%	12.5%	16.0%	11.5%	19.0%	16.0%
	Heart failure	7.7%	12.5%	4.0%	11.5%	4.9%	24.0%
	Mixed	17.9%	25.0%	24.0%	19.3%	19.0%	28.0%
	CKD	13.5%	20.0%	16.3%	15.9%	17.9%	11.9%
	of which						
	Taking charge	71.4%	83.3%	87.5%	71.4%	28.6%	50.0%
	Contrast induced nephropathy prophylaxis	0.0%	0.0%	12.5%	28.6%	57.1%	25.0%
	Other	28.6%	16.7%	0.0%	0.0%	14.3%	25.0%
	HD patients	7.7%	16.7%	20.4%	13.6%	25.6%	8.8%
	Infections	75.0%	20.0%	60.0%	16.7%	70.0%	66.7%
	Hyperkalemia	0.0%	20.0%	10.0%	16.7%	20.0%	0.0%
	Pulmonary edema	0.0%	20.0%	10.0%	33.3%	0.0%	33.3%
Other	25.0%	40.0%	20.0%	33.3%	10.0%	0.0%	
PD patients	1.9%	3.3%	10.2%	9.1%	2.6%	2.9%	
Peritonitis	0.0%	0.0%	100.0%	50.0%	100.0%	100.0%	
Other	100.0%	100.0%	0.0%	50.0%	0.0%	0.0%	
Other	1.9%	6.7%	2%	2.3%	0.0%	2.9%	
Outcome	Discharge and follow-up %	13.5% (p<0.05 vs 2019)	33.3%	40.8%	31.8%	25.6%	29.4%
	Hospitalization % (of which with acute HD prescription %)	86.5% (20%) (p<0.05 vs 2019)	66.4% (15%)	59.2% (13.8%)	68.2% (16.7%)	74.4% (3.4%)	70.6% (16.7%)

Table 1