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## Scientific letter

### Impact of confinement during the SARS-CoV-2 pandemic on the incidence of fragility fracture<sup>☆</sup>



#### Impacto del confinamiento durante la pandemia por SARS-CoV-2 en la incidencia de fractura por fragilidad

On 15 March 2020, a period of strict lockdown entered into force for the Spanish population due to the COVID-19 pandemic. This lockdown lasted until 15 June, the date when the Canary Islands entered the stage known as the “new normal”. Prior to that, on 11 May in the island of Gran Canaria, the de-escalation began with entry into phase 1, and then entry into phase 2 took place on 25 May. During these phases permitted activities were limited.

We studied the side effects of COVID-19 in the general health of the elderly population. The objective was to analyse the effect on the incidence of «major» fractures (clinical vertebral, hip, humerus and forearm)<sup>1</sup> in the lockdown period due to COVID-19 in the northern area of the Island of Gran Canaria.

The University Hospital of Gran Canaria is a tertiary hospital in the north of the island that provides health coverage to a population of 350,000 inhabitants >14 years of age. An observational study was carried out, reviewing the electronic records of the emergency service of our institution during the months of January 2017 to June 2020, both inclusive. The inclusion criterion was patients 50 years of age or older with a «major» fragility fracture. The ICD-10-ES classification was used,<sup>2</sup> established as a protocol for the identification of patients in the context of the hospital's Fracture Liaison Service.

The statistical analysis was based on the comparison of the incidence of fracture during the duration of lockdown (March, April and May) versus the same period in the years 2017–2019 (Newey-West and Cumby-Huizinga methods).

During the months of March, April and May 2020, 190 «major» fractures were registered (hip 72, forearm 56, humerus 48, vertebra 14). In the same period during 2019, 304 fractures were registered (hip 110, forearm 95, humerus 71, vertebra 28) (reduction of 37.5%).

The average number of fractures during the months of March, April and May from 2017 to 2019 was 107.3, 90.7 and 105.7, respectively, compared to 64, 54 and 72 fractures in 2020 (reduction of 40%, 40% and 32%, respectively). According to the fracture type, the reduction in fractures in the months of March, April and May 2020 compared to the average from 2017 to 2019 was 32.7% in hip fractures, 43.6% in forearm, 33.3% in humerus and 44.7% in vertebral fractures. In June 2020, the number of fractures was 97, 18.3% higher than in 2019 and 11.1% higher than the average from 2017 to 2019.

The analysis of interrupted series shows a statistically significant drop in the number of fractures from March 2020 onwards, for all types of fracture (Table 1). In the case of hip fractures, the estimated reduction is 36.8% ( $\exp(-0.4591) - 1$ ). In the case of hip fractures, the model also shows a lower incidence in summer. The forearm fractures fell 57.7% in March, 45.8% in April and 30.7% in May. Humerus fractures were reduced by 31.0%, and vertebral fractures by 66.1%. The analysis of the total number of “major” fractures shows a 45.3% reduction in incidence compared to that which would be expected if there were no lockdown.

In a Spanish study, a reduction in visits to the emergency department for fracture trauma was observed during lockdown. However, statistically significant differences in the reduction of the absolute number of hospital admissions for hip fracture were not found.<sup>3</sup> An Iranian study has also reported a significant reduction in the total number of fractures in the months of March and April 2020.<sup>4</sup>

**Table 1**  
Analysis of interrupted series, January 2017 to May 2020. Coefficient (standard error).

Log (fractures)	Hip	Forearm	Humerus	Vertebra	All
Constant	3.4014*** (0.1284)	3.4064*** (0.0922)	3.0342*** (0.1470)	1.6078*** (0.1498)	4.4701*** (0.0769)
1st trimester	0.0610 (0.1395)	-0.0404 (0.0949)	0.0890 (0.1039)	0.0666 (0.1580)	0.0390 (0.0755)
2nd trimester	-0.0068 (0.1110)	-0.0728 (0.0710)	-0.0295 (0.1245)	0.2145 (0.1709)	-0.0173 (0.0673)
3rd trimester	-0.3069** (0.1372)	0.0584 (0.1178)	-0.0805 (0.1003)	0.1780 (0.1057)	-0.0743 (0.0844)
4th trimester	Ref.	Ref.	Ref.	Ref.	Ref.
Tendency	0.0042 (0.0040)	0.0044 (0.0035)	0.0034 (0.0035)	0.0161*** (0.0055)	0.0048* (0.0026)
Lockdown	-0.4591*** (0.1179)	-0.8601*** (0.1169)	-0.3717*** (0.1540)	-1.0808** (0.4147)	-0.6036*** (0.1105)
Tend.* Lockdown.	0.0501 (0.0566)	0.2468*** (0.0567)	-0.0557 (0.1006)	0.0781 (0.3226)	0.0822 (0.0651)

\*  $p < 0.1$ .

\*\*  $p < 0.05$ .

\*\*\*  $p < 0.01$ .

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In one study, it was observed that vertebral fracture occurs mainly within the home, and that hip fracture occurs with equal frequency whether indoors or outside.<sup>5</sup>

In conclusion, we found a 45% reduction in fractures, an overall reduction in all fragility fractures during lockdown.

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## A strategy for urinary incontinence treatments deprescription



### Estrategia para deprescripción de tratamiento en la incontinencia urinaria

Dear Editor:

Urinary incontinence (UI) is a medical condition that is becoming more prevalent due to demographic aging. Available drugs for UI treatment in Spain are: solifenacin, fesoterodine, tolterodine, oxybutynin, propiverine, trospium and mirabegron. There is no consistent evidence to support superiority of drug therapy over behavioral therapy for treatment of urgency UI.<sup>1</sup> These drugs, except mirabegron, can cause anticholinergic effects<sup>2</sup> due to the anticholinergic burden (AB), which has been also associated with an increased risk of mortality,<sup>3</sup> while mirabegron may cause cardiovascular adverse events.<sup>2</sup> So, non-pharmacological treatment is preferred in elderly.<sup>1</sup>

Combination of UI drugs and all day long use of incontinence diapers is considered a therapeutic redundancy, increasing the risk of adverse effects without providing benefits. We developed a strategy in order to withdraw UI drugs in primary care setting including patients who met both criteria.

We used an in-house developed computerized clinical decision support system called OBSERVA, which let us identify patients and created proposals for deprescription of UI treatments. The aim of this intervention was to promote the deprescription through shared-decision making. Proposals were presented to general practitioners (GP) with the following pop-up message in the electronic prescription:

“Patient treated with UI drugs and all day long use of diapers. This drug provides low benefit and high risk of adverse events. Drug withdrawal is recommended”.

This message displayed three options: reject, accept or postpone the proposal. When GP accepted, treatment discontinuation was automatically transferred to electronic prescription.

Besides, educational outreach visits were provided by clinical pharmacists (CP) in health care centers.

The impact of this deprescription strategy was evaluated 21 months after its implementation.

The following data were collected: sex, age, UI treatment, date of regimen initiation and discontinuation and AB using Anticholinergic Cognitive Burden scale (ACB scale)<sup>3</sup> before and 21 months after the intervention.

Statistical analysis was performed using IBM SPSS Statistics v25. Quantitative variables were described as mean and standard deviation (SD) or as median and 25th–75th percentiles. Qualitative variables were described as percentages. Results of AB before and 21 months after intervention were compared by Student's *T*-test.

A total of 377 patients [median age: 84 (76–88) years] were included, and 391 proposals were sent. After 21 months, 66% of the deprescription proposals had been accepted, 26% rejected and 8% were pending review, which shows a great acceptance by GP, improving patients' safety and reducing unnecessary expenses.

Percentages of submitted proposals by drug were: solifenacin 25%, mirabegron 23%, tolterodine 21%, fesoterodine 19%, oxybutynin 10% and trospium 2%. After the intervention, the discontinued drugs were: mirabegron 26%, solifenacin 23%, fesoterodine 19%, tolterodine 19%, oxybutynin 11% and trospium 2%.

The available evidence indicates that cumulative exposure to AB may result in an increased risk of cognitive impairments,

**Table 1**  
Anticholinergic burden variation.

State of the proposal	Number of patients	Mean (SD) ACB before intervention	Mean (SD) variation in ACB	IC 95%
Accepted	258	3.66 (2.01)	–1.62 (2.22)	–1.89 to –1.35
Rejected	103	4.43 (1.92)	–0.33 (1.29)	–0.14 to –1.01
Pending review	30	3.40 (2.04)	0.43 (1.55)	0.21 to 1.30