



## **SARS-CoV-2 was Unexpectedly Deadlier than Push-scooters: Could Hydroxychloroquine be the Unique Solution?**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. Author WO launched idea on Twitter, added some sentences, submitted the paper, corresponded with the kind publisher. Author MR launched MP group on Twitter and Google Docs, performed study 1, added some sentences here and there, responded to reviewers. Author VR needed SIGAPS points, did the minimum. Found a beautiful picture for figure 3. Author FC wrote a lot of sentences but didn't need too many SIGAPS points, so fourth place was not as bad. Also, performed Study 3 in his head (philosophers are good at thought-experiments). Author DL was on holidays and added his name at the last time. Author ST wrote nothing but provided the push-scooters and did the outside job. Author ÖFH did nothing but is a very good friend of us; he helped us get some administrative paperwork. Author NM said "waouf" when the authors started to doubt (doubts are common in science, don't let them win you over, believe in yourself and what you do, don't let anyone distract you from the truth you know). Author MJ wrote sentences and said that the last place will be "enough for him". He does it every time, and it works pretty well on interns, we have to admit. All authors read and approved the final manuscript.*

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## ABSTRACT

**Background:** YouTube™ and Dropbox© studies have warned against the deadly potential of push-scooters.

**Aims:** Through three studies, we evaluate the potential of a combination of hydroxychloroquine and azithromycin for preventing push-scooter accidents.

**Study Design:** Studies 1 and 2 are retrospective observational studies in which we rely on archival data to explore the relationship between push-scooters accidents (PSA) and usage of hydroxychloroquine plus azithromycin (HCQ + AZT) in France in 2020 and 2019 respectively (7 participants). Study 3 is a partly randomized clinical trial (pRCT), retrospective, in which the use of HCQ + AZT for preventing PSA was assessed in a radically “direct” way (6 participants).

**Place and Duration of Study:** Studies 1 and 2 were conducted in the authors’ office chair (Ikea) in France (multicentric), on July 20th, 2020. Study 3 was conducted in the parking lot of an abandoned factory (Montcuq, Occitan region, France).

**Methodology:** For Studies 1 and 2, we used data from OpenMEDIC to determine usage of hydroxychloroquine in France in 2020 and Google Actuality to determine the rate of PSA in France in 2020. For Study 3, we adopted an experimental approach and had participants exposed to HCQ + AZ (treatment group) or homeopathy (control group) before having them perform a standard push-scooter exercise. Advanced statistical models were used to assess the prophylactic effect of the HCQ + AZT combination on PSA.

**Results:** Wide use of hydroxychloroquine is strongly associated with a very low level of PSA, both in time (2020 VS 2019) and in space (Marseille, Bouches-du-Rhône versus the rest of France). Moreover, the results of our retrospective pRCT prove without any doubt that prophylactic use of a HCQ + AZT combination helped to prevent PSA.

**Conclusion:** The HCQ + AZT combo should urgently be used in prevention of PSA all around the world.

*Keywords: Hydroxychloroquine; azithromycin; zinc; soup; COVID-19; motion sickness; push-scooters.*

## ACRONYMS

HCQ : Hydroxychloroquine

AZT : Azithromycin

PSA : Push-scooters Accidents

## 1. INTRODUCTION

As the number of push-scooters has been rising in France, so has the number of push-scooters accidents. Some of these accidents have proven to be deadly and previous YouTube™ and Dropbox© studies have warned against the deadly potential of push-scooters [1]. For a comparison, only three Chinese people had died from the novel coronavirus SARS-CoV-2 at the end of 2019 [2]. It is therefore important to reflect on the use of push-scooters through an accurate and ethical cost-benefit analysis.

Use and promotion of push-scooters have been advocated on the basis that they would contribute to the reduction and slowing of global warming. In fact, the French scientific elite has been working on the subject and has recently argued that there was no proof of global warming, as he could not see the ice cap melt on

his computer [3]. So, even if global warming was real, there are serious reasons to think that France is not affected, as global warming clearly stopped at the closed border [4]. Unfortunately, the debate is being polluted by bots, trolls and so-called experts funded by Big Trotinette to spread misinformation. Indeed, an independent study (in press on the third author’s Google Drive®) found a positive correlation between experts’ positive advocacy of push-scooters and the amount of money they received from Decathlon® ( $r = 3.14$ ). The fact that push-scooters is now a ‘generic’ means of locomotion that can be produced by anyone for a cheap price might lead people to the conclusion that no private interest is involved, but we’re not fooled, we know the truth [5]. So, it is important to diminish the increasing number of push-scooter drivers who are sacrificed on a daily basis.

In the present paper, we investigate an unexpected way of mitigating the death toll of the push-scooter craze: a combination of hydroxychloroquine and azithromycin (zinc can be added to improve the flavor, but is only necessary if the study fails to provide any significant effect). We combine two observational

studies (Study 1) and one randomized clinical trial (Study 3) to justify our hypothesis that HCQ + AZT is the key to all world's problems (see second author's personal diary for an application to the Israel-Palestine problem). Indeed, association of hydroxychloroquine and azithromycin was proposed in a brilliant paper to treat the novel coronavirus disease (later named COVID-19), with a spectacular effect [6]. It is obvious that the use of an antibiotic in viral infection could not cause antimicrobial resistance (because of the absence of bacteria), so that's not a problem in our study; plus, these treatments are old (first mentioned two millenaries ago by Galen in *De Remediis Parabilibus*, as an extract of *Cinchona officinalis*), absolutely safe (some adverse effect are possible - the Summaries of Product Characteristics are as much a lie as the cake) and inexpensive (\$400 per ton [7]), so we need to test them [8]. In 2019, hydroxychloroquine was given for rheumatoid arthritis, lupus erythematosus (discoïd and subacute), systemic lupus and lues; since 2020, it was given since March 2020, it's given because we have to let doctors prescribe what they want, damn it! Given the obvious similarities between COVID-19 and push-scooters accidents (i.e. both can have deadly outcomes in which the patient might even die), it seemed natural to expand the use of HCQ + AZT to push-scooters accidents (henceforth: PSA), even if no *in-vitro* study ever found an effect of HCQ on PSA.

## 2. MATERIALS AND METHODS

### 2.1 Study 1 – Relationship between the Use of HCQ + AZT and Frequency of PSA in France in 2020

Our objective was to evaluate the relationship between PSA and usage of hydroxychloroquine (HCQ) in France in 2020.

The computers and the Internet services were provided by the authors or by private institutions exclusively. The state of public research in France is not really compatible with the purchase of equipment quickly (except after justifying needs with the help of twelve forms, a photocopy of the rental lease of your student room from 18 to 25 years old and your car registration, in 3 copies). We used data from OpenMEDIC (<https://www.data.gouv.fr/fr/datasets/open-medic-base-complete-sur-les-depenses-de-medicaments-interregimes/>) to determine usage of hydroxychloroquine in France in 2020. We

used Google Actuality to determine the rate of PSA in French press in 2020 (query equation: "accidents de trottinette"). We have not classified the accidents by type, date or anything else, essentially by laziness.

### 2.2 Study 2 – Use of HCQ + AZT and PSA before 2020

Study 2 was excluded from analysis and from this paper, as it did not provide informative results (i.e. the results we wanted).

### 2.3 Study 3 – Use of HCQ + AZT in Prophylaxis against PSA

In Study 3, we tested the efficiency of our protocol in the prevention of PSA: HCQ + AZT (or spiramycin or nothing) +/- Zinc (or Magnesium or a teaspoon of Benco (C or R in a circle, or maybe TM) +/- Vitamin D (or Selenium). We have sometimes added apples, as their therapeutic effectiveness is popularly recognized [9]. This study was supported by the "Laissons les Vendeurs de Trottinette Prescrire" Collectif, the National Assembly and the Independent Push-Scooter Salesmen's Pension Fund.

#### 2.3.1 Participants

Two groups of volunteers (friends and relatives of the authors) were constituted. Push-scooters were invented in 1960; some researchers says 1930, but it wasn't born at that time, so it doesn't know. So, all participants with age > 60 (born before 1960) were placed in the control group ( $M_{age} = 75.09$ ,  $SD_{age} = 5.21$ ). Apart from that, the assignment to either condition was random -- we swear it on the "La vérité sur la maladie de Lyme" book.

In a pre-test phase, we asked each participant in the treatment group to roll 500m in a straight line on a push-scooter. Participants who fell or died during the pre-test were reallocated to our control group (two falls, one death). Thus, we were left with six volunteers in our treatment group ( $M_{age} = 13.13$ ,  $SD_{age} = 1.11$ ).

#### 2.3.2 Justification for sample size and analysis plan

Following the methodological rule according to which the smaller the sample, the higher the statistical significance [9], we decided to stop recruitment as soon as a significant effect at 84% was detected.

### 2.3.3 Method

Participants in both groups were asked to go down a 45° slope with a steep brick wall at the end on a push-scooter. They were instructed to go as fast as possible and brake at the last moment before hitting the brick wall. To reinforce ecological validity, sounds of cars and insults from other push-scooter drivers were broadcasted from the experimenters' phones (sounds were recorded in Paris prior to lockdown) [10]. Due to limited resources and fundings, only two push-scooters (one very old, one brand new) were available. The old, rusty push-scooter was randomly attributed to participants in the control group. It should be noted that the brand new push-scooter was in zinc, which might have contributed to potentialize the HCQ + AZ combination.

This study was retrospective, which is why we did not need an opinion from the ethics committee.

## 3. RESULTS

### 3.1 Study 1 – Relationship between the Use of HCQ + AZT and Frequency of PSA in France in 2020

On Google Actuality (page 1), we noted 1 PSA on 20th July (Val d'Oise), 1 on 20th October 2019 (Bordeaux), 2 on 2th and 22th september 2019 (Reims and Levallois-Perret), 1 on 26th april 2020 (Nord-sur-Edre), 1 on 2th december 2019 (Nancy) and 1 on 20th january 2020 (Villefranche-sur-Saône).

As our results didn't find PSA in March 2020, we concluded that hydroxychloroquine was an effective preventive therapy for PSA with a RR = 0 ( $p < 0.0001$ ).

We only consulted page 1 of Google Actuality: following the methodological rule according to which the smaller the sample, the higher the significance [11], we decided to stop recruitment as soon as we found a significant effect.

In order to increase sensibility and specificity, we decided to run additional, exploratory analyses and searched another figure in Google Images about PSA (query equation: "accidents de trottinette") and found this one, which seems in favor of our initial idea about the subject, so we

performed a graph extraction procedure using Windows' "Ctrl-C Ctrl-V" command [9] (Fig. 2).

As suggested by our reviewer, we could highlighted that due to the home confinement suggested by the WHO for the Covid 19 contingency, a decrease in the circulation of push-scooters can be inferred at the time of 2020 compared to that of 2019, which may be a factor to take into account to say that there is a decrease in accidents.

Adherence of azithromycin was not studied.

### 3.2 Study 3 – Use of HCQ + AZT in Prophylaxis against PSA

In the treatment group, only 1 of the six participants died during the experiment (though there were a total of three non-deadly accidents). However, death was suspicious as it intervened before participants went down the slope, at the moment he received instructions from the experimenter. According to the coroner, he might have died from a heart problem caused by the treatment. However, as he was very young, we ruled this out as improbable, because hydroxychloroquine is a really safe medication [12]. So, we decided not to count him as a death and rather excluded him from analysis; we counted him as having voluntarily decided to discontinue the treatment.

In the control group, two participants out of four died from an accident (a whopping 50%, the two other participants survived without accident). After several attempts, we were able to find a test that returned a significant effect – paired one-tailed Student t-test:  $t(3) = 1.73, p < .10$ . This suggests that HCQ + AZT was effective and had a stupefying effect in preventing push-scooters accidents. However, because a bunch of petainists methodologists refused to consider our result as significant because it did not reach their completely arbitrary significance threshold, we decided to perform further analyses. Indeed, these are not the international standards, but they are the new standards in France. We realized that oxygen saturation might be a good clinical indicator of mortality (after all, dead people typically do not breathe) – maybe even better than death itself. We thus went back to our participants to measure their oxygen saturation levels (after taking down their surgical mask, to avoid confounds). We did not receive official authorization to dig up the corpses of dead

participants; we did try to dig them up anyway, but the cemetery keeper could no longer find the register of graves, and unfortunately we did not have the necessary material for several blind desecrations. So, we decided to just assume that their transcutaneous oxygen saturation levels were 0%. This analysis returned a "significant" effect – chi-square test:  $\chi^2 = 4.5, p < .04$ .

#### 4. DISCUSSION

Given the alarmist comments of some people who have not looked at the level of the ice pack

on Google Earth by themselves, there is a risk that they will continue to abandon real means of transport and continue to use push-scooters. So, we can certainly expect an increase of the number of push-scooter users, of deaths and injuries [7].

Iodized salt (table salt mixed with iodine) is a well-known preventive method against iodine deficiency (major cause of thyroid affections and intellectual and developmental disabilities) [13], and we suggest that hydroxychloroquine could in the same way be added to table salt in order to

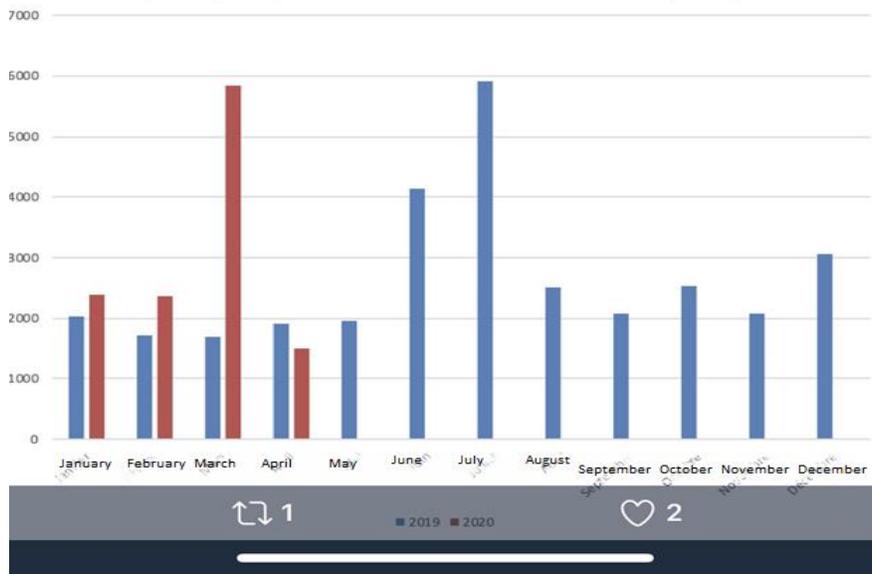
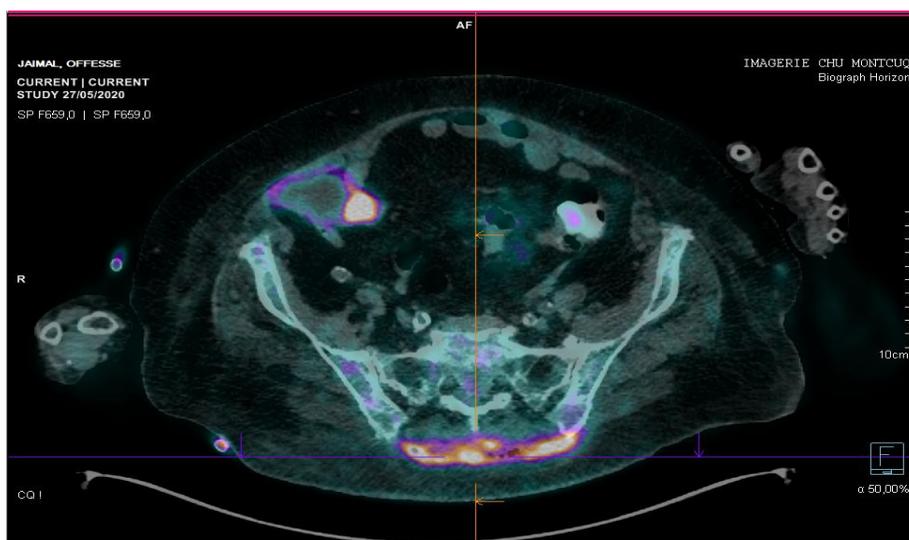


Fig. 1. Number of boxes of hydroxychloroquine reimbursed in the country of Voltaire and Molière (non-exhaustive list of the French elite) in 2019 and 2020

French City (France)	Killed and injured people with push-scooter or roller	Evolution 2016-2017:
1 <sup>st</sup> Paris	49	+ 19,51 %
2 <sup>nd</sup> Seine-Saint-Denis	33	+ 50 %
3 <sup>th</sup> Hauts-de-Seine	26	+ 13,04 %
4 <sup>th</sup> Rhône	23	+ 21,05 %
5 <sup>th</sup> Val-de-Marne	20	- 25,93 %
6 <sup>th</sup> Nord	9	+ 28,57 %
7 <sup>th</sup> Essonne	9	- 10 %
8 <sup>th</sup> Bouches-du-Rhône	8	+ 60 %
9 <sup>th</sup> Seine-et-Marne	6	+ 200 %
10 <sup>th</sup> Val-d'Oise	6	0 %

Fig. 2. PSA in France (deaths plus injuries). Note the low level of accidents in Bouches-du-Rhône, where hydroxychloroquine was always widely used for malaria control (Courtesy of Google Images). Translation by authors due to editorial exigencies



**Fig. 3. H type sacral fracture in a 40-years-old female after a push-scooter accident, during COVID-19 pandemic, in Vigneulles-lès-Hattonchâtel, Meuse, France (PET/CT acquisition two days after the trauma). HCQ + AZT was unfortunately not used in this patient, due to location (not Marseille)**

prevent both COVID-19 and push-scooter accidents. The pathophysiology of the protective effect of hydroxychloroquine remains to be clarified, but the urgency seems first to prescribe widely. That will save millions of lives in the world according to our study and other studies [14]. We received the President of the Republic to discuss the results in preview and he was thrilled; following our interview, in his Churchillian televised speech, he insisted that all avenues for preventing scooter accidents be explored.

## 5. CONCLUSION

In our study, hydroxychloroquine was associated with lower odds of push-scooters accidents. It is urgent to prescribe hydroxychloroquine for all push-scooters users.

Can we publish anything right now? I think that the question, it is quickly answered, and peer-review has never been a scientific method anyway [15].

Further research is needed, especially randomized controlled trials as it was performed for parachutes in aircraft injuries [16]. Obviously, a preprint of an observational study combined with an underpowered CRT will be enough to provide guidelines until that.

Hydroxychloroquine is a cheap, devilishly effective molecule with a higher level of safety

than many other drugs. We need to use it more, everywhere, all the time, all around the world. Because hydroxychloroquine is the hero the world deserves, but not the one it needs right now. So the detractors will hunt it. Because hydroxychloroquine can take it. Because it's not our hero. It's a silent guardian, a watchful protector. A dark knight.

Otherwise, the adjunction of zinc [17], ivermectin [18] or any other drug [19] to the association HCQ + AZT should be considered. As the great French scientist Jean-Claude Dusse once said: "you never know, on a misunderstanding, it might work" [20].

## DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

## CONSENT

It is not applicable.

## ETHICAL APPROVAL

The authors want to mention that the ethics committee that gave retrospective approval for this study was independent; the authors and their colleagues usually participate, but in accordance with the Helsinki rules, they did not take part in the processing of the present submission.

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## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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