

## Diabetic Foot in Algeria: Gangrene of the Extremities during Covid 19

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### Abstract

The purpose of this presentation is to publish a catalogue of the lesions encountered during the attack of the limbs by COVID 19. It does not claim the explanation.

We preferred to stay open for our patients and therefore not to close our diabetic foot centre since the start of the pandemic to date.

These direct face-to-face visits were made possible thanks to all the health precautions taken to protect our patients, carers, and the entire active team at our centre.

**Keywords:** Diabetic Foot; Algeria; Wounds; Gangrene; COVID 19

### Short Communication

The purpose of this presentation is to publish a catalogue of the lesions encountered during the attack of the limbs by COVID 19. It does not claim the explanation. We preferred to stay open for our patients and therefore not to close our diabetic foot centre since the start of the pandemic to date. These direct face-to-face visits were made possible thanks to all the health precautions taken to protect our patients, carers, and the entire active team at our centre.

Between March 1, 2020 and March 1, 2021, we carried out 14,312 specific consultations. We have identified 147 cases of gangrene of the extremities due to Covid 19. All had been infected with Covid 19. Rapid serology tests were carried out on site: some were negative even though the patients were barely recovering, much to our surprise at first. We limited ourselves to studying the lesions: Sudden onset and rapidity of installation during convalescence with very severe pain at the start. When we found ourselves in front of these lesions, from the outset, we were struck by the extent of the damages, both in extent and in depth, and therefore as such, we noted bilateral damages to the limbs (lower legs and even damages to the extremities of all four limbs).

*(Pictures 1 to 5 illustrate the bilateral damages of the upper and lower limbs)*



Picture 1.

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**Picture 2.**



**Picture 3.**



**Picture 4.**



**Picture 5.**

Two types of lesions, which for our team have become pathognomonic of Covid 19:

- Intact and/or open bubbles often evolving on areas of white necrosis.
- A particular parchment or marbled appearance extending from the sole of the foot to the knees or the roots of the thighs.

*(Pictures 6 to 11 illustrate the 2 types of lesions we described above)*



**Picture 6.**



**Picture 7.**



**Picture 8.**



**Picture 9.**



**Picture 10.**



**Picture 11.**

We were able to observe mummified limbs - upper or lower - with a very limited and deep demarcation line, which is not the case in all patients in whom there was a clear and shallow limit in geography map. *(Pictures 12 and 13 illustrate what we described above)*



**Picture 12.**



**Picture 13.**

The remainder were classic advanced ischemic lesions - limbs with bluish, purplish, or black areas and a sharp demarcation. However, we noted that gangrene may be limited and only affects the toes or fingers or the entire forefoot.

*(Picture 14 illustrates what we described above)*



**Picture 14.**

This enabled us to intervene after preparation to limit these major amputations, which are inevitable for most of the cases seen.

*(Picture 15 illustrates what we described above)*



**Picture 15.**

Other patients arrived at our centre after having had surgery done elsewhere with unfavourable outcome (necrectomy, amputation, and vascular surgery).  
*(Pictures 16 to 19 illustrate what we described above)*



**Picture 16.**



**Picture 17.**



**Picture 18.**



**Picture 19.**

The heel ulcer was a complication of bed rest worsening the already existing ischemic lesions.

*(Picture 20 illustrates what we described above)*



**Picture 20.**

### **Discussion**

We were left perplexed by this lesion variability.

- How to explain the bilateral attacks and those of the extremities of the four limbs?
- Their aspects being completely different.
- And this symmetrical aspect?

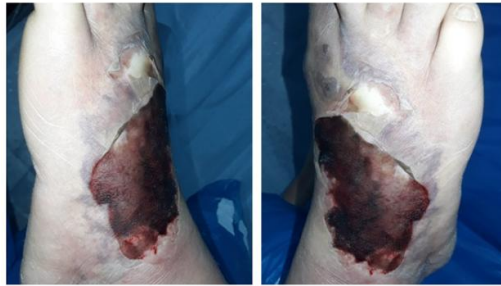
*(Pictures 21 to 23 illustrate what we described above)*



**Picture 21.**



Picture 22.



Picture 23.

### Other questions:

If we have been able to admit the occurrence of the first cases, due to the absence of anticoagulant treatment at the start of the pandemic, why do such attacks persist despite the systematic initiation of treatment, regardless of the terrain (age, sex, and tares)?

The delay in access to amputation would explain these serious conditions. It can be justified by the poor general condition of the patient not allowing the surgery, as well as the non-availability at the time of specialized medical centers to fight COVID 19!!

Surviving COVID 19 seemed like a miracle at the start of the pandemic but surviving COVID 19 with amputation of two or four limbs is up to a NIGHTMARE.

We lived the horror, and it continues. Seven cases today with PCR positive, hospitalizations and.... Negative serology at one month.

### Conclusions

Lots of questions, few, or no specific answers.

Going back in time, during our research, we were surprised to find a thesis to obtain a doctor's degree, presented in December 1892, by Victor MORNET, to the Faculty of Medicine and Pharmacy of the University of Lyon (France), entitled "**de La GANGRENE DES EXTREMITES dans la grippe**". **EVERYTHING WAS DESCRIBED IN IT. WE WOULD HAVE BELIEVED A PLAGIARY.**

- It mentions the treatment of influenza (quinine sulfate) (P.41)
- The same lesion descriptions
- The same treatment (amputation or conservative treatment if the lesions were limited)
- And current reflections on the origin of lesion diversity.

We invite you to read this thesis, which already at the time posed the problem of the mechanism of gangrene in influenza and the formation of thromboses. Even pulmonary infarction is described there (P 58) as well as Disseminated Intravascular Coagulation (P59), and Raynaud's syndrome (P77).

We found out those patients we have been following before the pandemic had developed, for a small number of them, a minimal form of COVID 19. None of them came to our consultation with gangrene.

It seems that the anticoagulant treatments prescribed, for the majority (ASPEGIC100 and PLAVIX 75), would have been protective, as well as the vitamins D<sub>3</sub>, C, and the multivitamin complex ALVITYL. These, being part of our usual therapeutic arsenal for years. We will carry out a statistical study as soon as COVID 19 is behind us.

In sum, a lot of horror, not always the right answers, and some cacophony in the management of COVID 19, at least in the beginning. Mandatory post-pandemic assessments will be necessary and will certainly provide the scientific explanations that we do not have yet. We are currently unable to collect all the data.

### Conflict of Interest

No conflict of interest.

### References

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