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# Comparison of pain and duration of panretinal photocoagulation using conventional multispot laser and Navigated laser.

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## Purpose

To compare the pain and the duration of a panretinal photocoagulation (PRP) session using a conventional multispot laser (Vitra Multispot, 577nm, Quantel Medical) and using the Navilas laser (OD-OS, GmbH)

## Methods

This prospective case-serie included thirty two eyes of sixteen naives patients requiring bilateral PRP for diabetic retinopathy. The treatment of the first eye was performed using a conventional multispot laser and the other eye was treated with the Navilas laser with the same parameters (same power, exposure time, number, size and spacing of the spots). For each eye, the duration of the session and the pain, measured with a visual analogic scale (VAS) were compared.



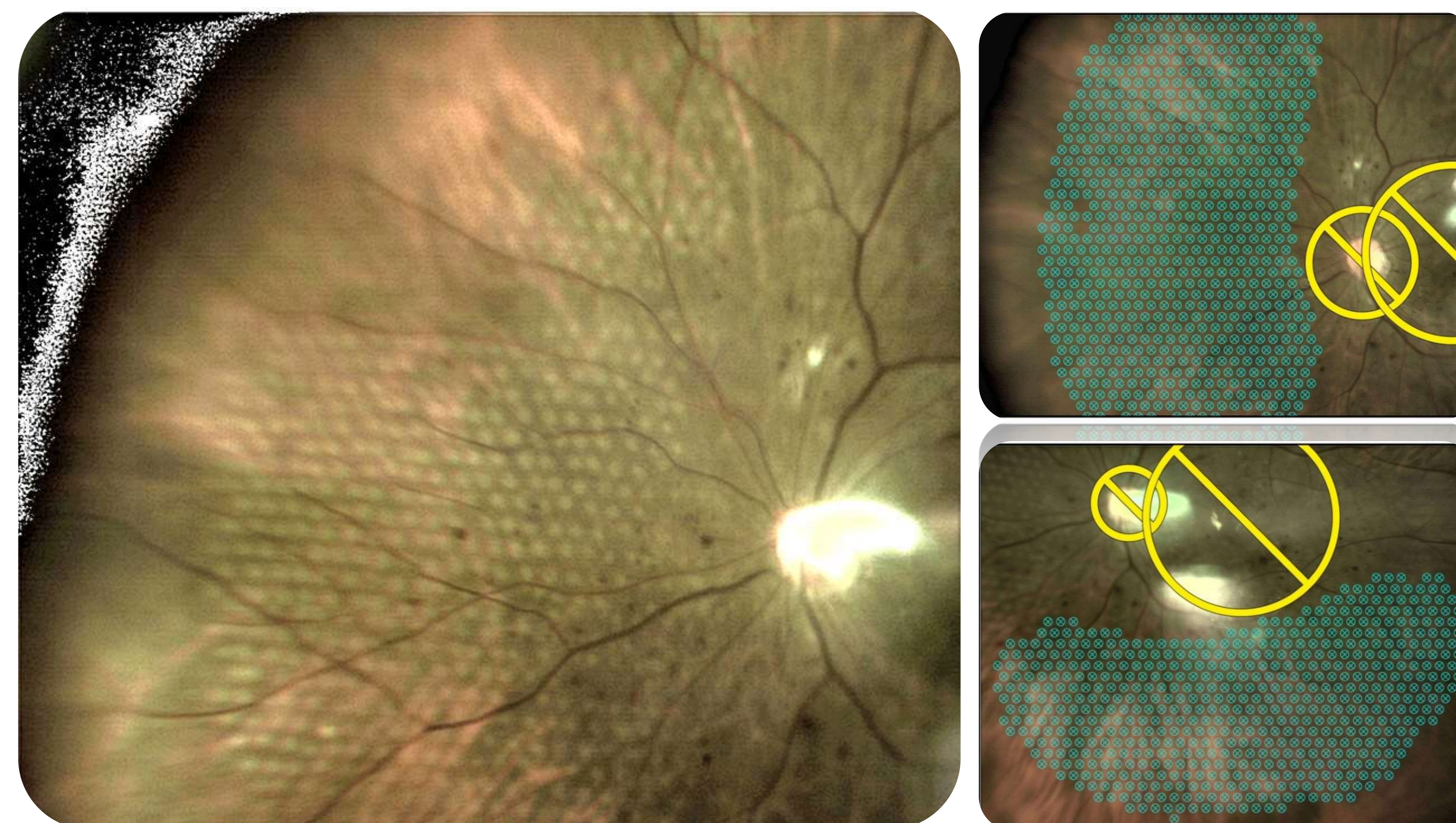
**Figure 1:** Result of the mean pain score using the conventional laser and the Navilas presented on a Visual Scale

	Pain (VAS)	Duration (Min)
<b>Conventional Laser</b>	7.1 +/- 2.1	6.6 +/- 1.1
<b>Navilas</b>	2.4 +/- 1.6	5.2 +/- 0.8
<b>p</b>	<0.001	<0.001

**Table 1:** Results of the mean pain score and duration of a PRP session using the conventional laser and the Navilas

## Results

On average, 1480 (1000-2100) spots with a mean power of 308 mW (300-350mW) were delivered. Duration of the spots always was 20 msec with a spacing of 0.75. The PRP session using the Navilas laser (mean time of 5,2 +/- 0,8 minutes) were significantly faster than with the conventional multispot laser (6,6 +/- 1,1 minutes) (P<0.001). The pain caused by the Navilas laser was significantly reduced (VAS : 2,4 +/- 1,2) compared to the treatment with the conventional laser (VAS : 7.1 +/- 2.1) (p<0,001)



**Figure 2.** Result of a first session of PRP on the mid periphery using Navilas laser for a patient with severe non proliferative diabetic retinopathy. 1304 spots were applied in one session. Note the regularity of the spots

## Conclusion

The PRP session using the Navilas laser were faster and less painful than with a conventionnal multispot laser. The reasons for the difference of pain remain unclear and other studies are needed.