Hypertensive diagnosis tool: Automatic analysis of retinal images

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Introduction:
Early alterations in retinal microcirculation are observed in most hypertensive patients seen in daily practice. Therefore, it is necessary an objective method to quantify these alterations. This technology proposes an automatic or semi-automatic computerized method to evaluate the caliber of retinal blood vessels that has shown high sensitivity and specificity to calculate the arteriovenous ratio (AVR). The method is based on the snakes model to extract and calculate the size of veins and arteries in the retina.

Results:
The technology was validated in several clinical trials, showing a very good performance to calculate the arteriovenous ratio.

Applications:
- Diagnosis of Hypertensive retinopathy
- Diagnosis of macular degeneration

Advantages:
- Reduction of diagnostic times
- Increase the accuracy of the diagnosis
- Objective evaluation

Intellectual property rights:
US8351669, US8355544

Type of collaboration:
- License agreement

Keywords:
hypertensive retinopathy, macular degeneration, automatic analysis, arteriovenous ratio

More information: http://www.ibridgetnetwork.org/usc/retinal_image_analysis