T

thalmologists. This test has been cited in the water-drinking test among oph-
coma14 and a patients' response to the
during office hours.4,5 The water-
as a surrogate for detecting patients
new purpose. Studies have shown that
of glau-

References
Arch Augenheilk 1928;98:569-581.
3. Roemmesen KE, Joosgen BA. Diagnostic value of the water-drinking test in early detec-
5. Susanna R Jr et al. The relation between intraocular pressure peak in the water drinking 
6. Susanna R Jr, Medeiros FA, Vessani RM et al. Intraocular pressure fluctuations in 

Kauml ume − The treatment of wet age-
related macular degeneration (AMD) is the most rapidly evolving field in ophthal-
mology. Laser treatment was replaced by photodynamic therapy (PDT) which was then 
followed by the laser vision loss significant-
cantly. Today we are already able to increase vision in AMD-patients either by using ranibizumab/bevaciza-
sodium and VEGF Trap.

In addition, there are numerous 
treatments under investigation, whose approaches can be 
grouped according to the therapeu-
tic target:

1. VEGF Cascade

Multiple molecular interactions 
finally result in the production of vascular endothelial growth factor (VEGF). A
key step in the VEGF production involves a molecule known as mTOR (mammalian Target of Rapamycin), a protein kinase that regulates cell pro-

ference and prolifere-
tion. 

2. VEGF Receptor

Once VEGF is generated therapeutic 
agents which directly target the VEGF molecule (ranibi-

3. Anti-VEGF molecules such as 

KHF102 is a fully human fusion 
protein containing a key domain from 
vascular endothelial growth factor re-
ceptors 1 and 2 with human immuno-
globulin Fc.

Furthermore, there are several 
treatments under investigation to 
target the VEGF receptor directly and/

4. VEGF Targets

Following production VEGF binds to 
its receptors. By doing so the molecule initiates a series of events which are 
mediated by the VEGF receptor kinase. 

Therapists are currently using 
anti-VEGF molecules such as 
zumab/bevacizumab or VEGF Trap.

Thus, antagonism of these mole-

ules should exert an antiangiogenic effect.

Sphin gine-1-phosphate (SIP) is a 
bioactive lipid molecule that stimu-
lates endothelial cell proliferation, 
proliferation, and survival in vitro, and 
tumor angiogenesis in vivo. Again, targeting this molecule should reduce prolifere-

activity. 

POT-4 (Potentia Pharmaceuticals, Inc) is a small molecule deriva-
tive of Comptins that is directed against com-

ponent C3. POT-4 is a cyclic 13 amino acid peptide, which interferes with the cleavage of the C3, the component that all 3 path-

ways of complement activation con-

verge on. It is the first complement 
inhibitor studied in patients with 
AMD. POT-4 has completed phase 1 
tests in patients with wet AMD with 
an excel lent safety profile. A unique feature of POT-4 is that it persists as a 
long-lasting gel deposit after intravit-

ral injection. The study demonstrated 
that significant levels of drug are 
maintained in the vitreous cavity for 
u peperiod of time following a single 
junction. A phase 2 study is currently under way.

Genentech/Roche is working on anti-factor D (FDP-4516) that 

inhibits the C3 and C5 alternative pathway convertases. Phase 1 studies have 
been successfully completed.

Furthermore, two C5 inhibitors are 
being studied: Eculizumab/Soliris (Alexion) and ARC1905, an anti-C5 apoprotein (Ophthech).

In summary, the inflammatory cas-
drives plays a significant role in this 
disease entity. Therefore, targeting this part of the pathway could be a 
very effective approach in the future of wet AMD treatments.

5. VITREORETINAL TRACTION

This part of the disease entity has 
previously been overestimated. The elimination 
of vitreoretinal traction by means of 
surgery or with a vitrectomy agent 
can therefore be reasonable when 
traction contributes significantly to 
the disease process. In those subjects who 
do not respond adequately to anti-VEGF the vitreous body should be 
investigated in detail. A prospective 
trial to investigate this approach is 
onsulting. 

PR 17 February 13.30 – 15.00 hrs 
Capital Suite 13
Session: PHA - Drugs for posterior segment disease

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World Ophthalmology News

Water-Drinking Test

Revival of an Abandoned Diagnostic Tool

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University of São Paulo
Department of Ophthalmology
Professor and head

Hall 11
Session: GLA - Intermediate

A novel approach has been used to assess the 
quality of treatment, and when a good eye is given 
to control its IOP. Also, the water-drinking 

studies may be predictive of visual field progression.11

There has been a growing interest in 
the water-drinking test among oph-
thologists. This test has been cited as a 
method for detecting patients who 
have IOP spikes not identified 
during office hours.4,5 The 
water-drinking test is also used 
to evaluate the effect of treatment on 
reducing IOP peak and fluctuation, 
both with ocular hypotensive medi-
cations.4 This reflects the fact 
that the IOP peaks of the 
water-drinking test strongly corre-
late and are in agreement with 
IOP peaks that normally occur 
during the day.

This lecture will show the importance 
of this test to assess the IOP profile of glau-
comatous patients and how it can be used to make thera-

peutic decisions.

Wed, 16 February 13.00 – 13.45 hrs

In summary, there are numerous 
treatments under investigation, whose approaches can be 
grouped according to the therapeu-
tic target: