

Chirurgia del foro maculare miopico: ab esterno

S. Scalia



S.O.Si.
Società Oftalmologica Siciliana

XL Congresso

Il timing del glaucoma

Chirurgia della macula



Hilton Hotel Giardini Naxos

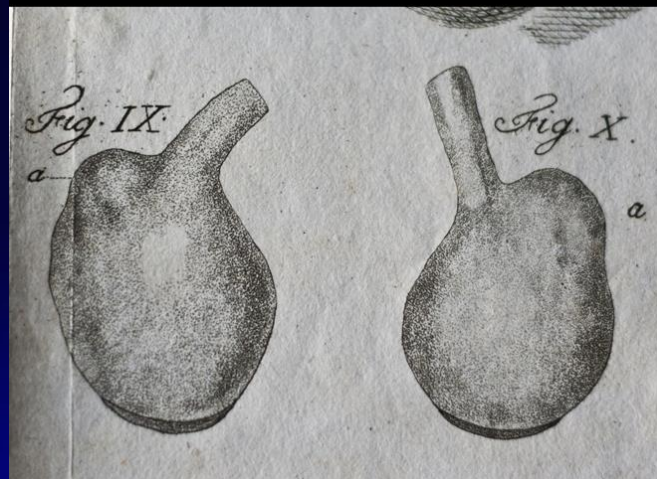
16 • 17 • 18 Aprile 2015

ARNAS GARIBALDI NESIMA CATANIA

MIOPIA ELEVATA



TRATTATO
DELLE PRINCIPALI
MALATTIE DEGLI OCCHI
DI
ANTONIO SCARPA



Publicazioni

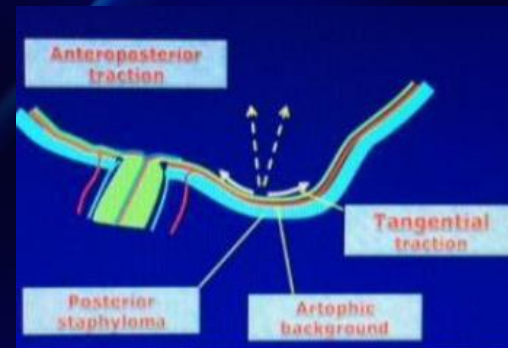
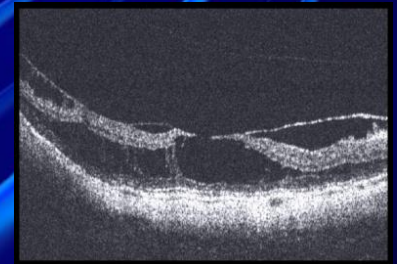
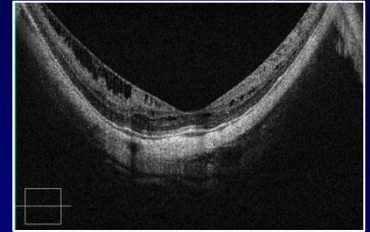
P.R. Simcock and S. Scalia,
"Phacovitrectomy without prone posture for
full thickness macular holes",
BR J OPHTH, 85(11), 2001, pp. 1316-1319

P.R. Simcock and S.Scalia, "Phaco-vitrectomy
for full-thickness macular holes",
ACT OPHTH ,78(6), 2000 pp.684-686



Patogenesi

- Trazioni vitreali anteroposteriori e tangenziali, rigidità ILM
- Sfiancamento sclerale nello stafiloma posteriore
- Rarefazione epitelio pigmentato e vascolarizzazione coroideale



Patogenesi

- Macular foveoschisis (MF), macular detachment without macular hole (MD), macular detachment with macular hole (MHMD) could be different stages of a progressive disease well described as
Myopic Traction Maculopathy (MTM).

- Takano M KS. Foveal retinoschisis and retinal detachment in severely myopic eyes with posterior staphyloma. *Am J Ophthalmol* 1999;128:472-476.
- Kuhn F. Internal limiting membrane removal for macular detachment in highly myopic eyes. *Am J Ophthalmol* 2003;135(4):547-9.
- Panozzo G, Mercanti A. Optical coherence tomography findings in myopic traction maculopathy. *Arch Ophthalmol* 2004;122(10):1455-60.

Trattamenti proposti

- Piombaggio maculare per distacco retinico in miopia elevata foro maculare e stafiloma

Razionale

- Passaggio profilo maculare da concavo a convesso
 - Riduzione trazioni vitreali
 - Riaccostamento tessuto retinico ad epitelio pigmentato
 - Shift ipermetropico e riduzione importante miopia
-
- G. Ripandelli, A. M. Coppe, R. Fedeli, V. Parisi, D. J. D'Amico, ' and M. Stirpe, "Evaluation of primary surgical procedures for retinal detachment with macular hole in highly myopic eyes: a randomized comparison of vitrectomy versus posterior episcleral buckling surgery," *Ophthalmology*, vol. 108, no. 12, pp. 2258–2264, 2001.
 - M. Sasoh, S. Yoshida, Y. Ito, K. Matsui, S. Osawa, and Y. Uji, "Macular buckling for retinal detachment due to macular hole in highly myopic eyes with posterior staphyloma," *Retina*, vol. 20, no. 5, pp. 445–449, 2000.]
 - G. P. Theodosiadis and P. G. Theodosiadis, "The macular buckling procedure in the treatment of retinal detachment in highly myopic eyes with macular hole and posterior staphyloma: mean follow-up of 15 years," *Retina*, vol. 25, no. 3, pp. 285– 289, 2005.
 - F. Ando, N. Ohba, K. Touura, and H. Hirose, "Anatomical and visual outcomes after episcleral macular buckling compared with those after pars plana vitrectomy for retinal detachment caused by macular hole in highly myopic eyes," *Retina*, vol. 27, no. 1, pp. 37–44, 2007.

Trattamenti proposti

- **Pneumoretinopessia successo 54-83 %**

G. W. Blankenship and S. Ibanez-Langlois, "Treatment of myopic macular hole and detachment: intravitreal gas exchange," *Ophthalmology*, vol. 94, no. 4, pp. 333–336, 1987.

S. Kuriyama, M. Matsumura, T. Harada, H. Ishigooka, and N. Ogino, "Surgical techniques and reattachment rates in retinal detachment due to macular hole," *Archives of Ophthalmology*, vol. 108, no. 11, pp. 1559–1561, 1990

F. T. Chen, P. T. Yeh, C. P. Lin, M. S. Chen, and C. H. Yang, "Intravitreal gas injection for macular hole with localized retinal detachment in highly myopic patients," *Acta Ophthalmologica*, vol. 89, no. 2, pp. 172–178, 2011.

E. Ortisi, T. Avitabile, and V. Bonfiglio, "Surgical management of retinal detachment because of macular hole in highly myopic eyes," *Retina*, vol. 32, no. 9, pp. 1704–1718, 2012.

I. Georgalas, C. Koutsandrea, and I. Ladas, "Intravitreal gas injection for macular hole with localized retinal detachment in highly myopic patients," *Acta Ophthalmologica*, vol. 89, no. 4, pp. e380–e381, 2011.

- **Vitrectomia + gas (SF₆-C₃F₈) successo 43-78%**

Y. Oshima, Y. Ikuno, M. Motokura, K. Nakae, and Y. Tano, "Complete epiretinal membrane separation in highly myopic eyes with retinal detachment resulting from a macular hole," *The American Journal of Ophthalmology*, vol. 126, no. 5, pp. 669–676, 1998.

R. Dell'Omo, F. Semeraro, G. Guerra et al., "Short-time prone posturing is well-tolerated and reduces the rate of unintentional retinal displacement in elderly patients operated on for retinal detachment," *BMC Surgery*, vol. 13, supplement 2, article S55, 2013

Trattamenti proposti

- **Vitrectomia +gas+ peeling limitante + gas: successo 69% to 93.8%**
 - X. Li, W. Wang, S. Tang, and J. Zhao, "Gas injection versus vitrectomy with gas for treating retinal detachment owing to macular hole in high myopes," *Ophthalmology*, vol. 116, no. 6, pp. 1182.e1–1187.e1, 2009
 - K. Kadosono, F. Yazama, N. Itoh et al., "Treatment of retinal detachment resulting from myopic macular hole with internal limiting membrane removal," *The American Journal of Ophthalmology*, vol. 131, no. 2, pp. 203–207, 2001.
 - Y. Oie, K. Emi, G. Takaoka, and T. Ikeda, "Effect of indocyanine green staining in peeling of internal limiting membrane for retinal detachment resulting from macular hole in myopic eyes," *Ophthalmology*, vol. 114, no. 2, pp. 303–306, 2007
 - R. F. Lam, W. W. Lai, B. T. O. Cheung et al., "Pars plana vitrectomy and perfluoropropane (C3F8) tamponade for retinal detachment due to myopic macular hole: a prognostic factor analysis," *American Journal of Ophthalmology*, vol. 142, no. 6, pp. 938–944, 2006.
 - Gonvers M, Machemer R. A new approach to treating retinal detachment with macular hole. *Am J Ophthalmol* 1982;94:468-72.
 - Kanda S, Uemura A, Sakamoto Y, Kita H. Vitrectomy with internal limiting membrane peeling for macular retinoschisis and retinal detachment without macular hole in highly myopic eyes. *Am J Ophthalmol* 2003;136(1):177-80.
 - Ikuno Y, Sayanagi K, Ohji M, et al. Vitrectomy and internal limiting membrane peeling for myopic foveoschisis. *Am J Ophthalmol* 2004;137(4):719-24.
 - Panozzo G, Mercanti A. Vitrectomy for myopic traction maculopathy. *Arch Ophthalmol* 2007;125(6):767-72.
- **Vitrectomia olio di silicone: successo 66.6% to 100%**
 - A. Nishimura, M. Kimura, Y. Saito, and K. Sugiyama, "Efficacy of primary silicone oil tamponade for the treatment of retinal detachment caused by macular hole in high myopia," *The American Journal of Ophthalmology*, vol. 151, no. 1, pp. 148–155, 2011.
 - C. Scholda, M. Wirtitsch, R. Biowski, and M. Stur, "Primary silicone oil tamponade without retinopexy in highly myopic eyes with central macular hole detachments," *Retina*, vol. 25, no. 2, pp. 141–146, 2005.
- **Heavy vs standard silicone oil in the management of retinal detachment with macular hole in myopic eyes (100%)**
 - Avitabile et al , *Retina*. 2011 Mar;31(3):540-6

Chirurgia del foro maculare miopico: ab externo versus vitrectomia

- Evaluation of Primary Surgical Procedures for Retinal Detachment with Macular Hole in Highly Myopic Eyes

- A Randomized Comparison of Vitrectomy versus Posterior Episcleral Buckling Surgery

- Guido Ripandelli, MD,¹ Andrea Maria Coppe', MD,¹ Romolo Fedeli, MD,¹ Vincenzo Parisi, MD^{1,2,3} Donald J. D'Amico, MD,⁴ Mario Stirpe, MD¹

- Purpose: To evaluate postoperative outcomes between pars plana vitrectomy (PPV) and posterior episcleral buckle procedure (PEBP) in myopic eyes with retinal detachment (RD) and macular hole (MH).

- Design: Retrospective nonrandomized comparative interventional trial. Participants and Intervention: The study included 30 phakic, highly myopic eyes (from 19–30 negative diopters) of 30 patients with an RD and MH. The patients were divided into two groups: They were assigned to PPV (15 eyes, group A) or to PEBP (15 eyes, group B). No significant (P 0.01) differences in preoperative visual acuity (VA) between group A and group B eyes were found. Follow-up was 12 months. Main Outcome Measures: Anatomic attachment of the retina was determined, and VA was measured. Results: Retinal reattachment was obtained on 11 of 15 (73.3%) eyes of group A and on 14 of 15 (93.3%) eyes of group B. In group A eyes the VA was substantially unmodified after surgical treatment, whereas in group B eyes the VA observed after surgical treatment increased significantly (P 0.001) with respect to the preoperative values.

- **Conclusions: PEBP resulted in better postoperative anatomic and functional results compared with PPV in eyes with extreme degrees of myopia, pronounced posterior staphyloma, and posterior vitreous schisis affected with RD caused by MH.**

- Ophthalmology 2001;108:2258–2265 © 2001 by the American Academy of Ophthalmology.

- Ando et al, Retina 2007

Vitrectomia peeling gas

Tecniche di piombaggio maculare

- A radially placed polyethylene tube
- A silver ring, later modified, attached to the limbus with an arm fixed to the ring with a terminal ball to indent the retina
- An oblique cerclage
- A silastic sponge rod placed between the inferior oblique insertion and the optic nerve
- **Abbandonati per difficoltà chirurgiche e complicazioni**
- Zhu uses a scleral band +piombaggio di 12x14 mm
- Piombaggio sagomato a C con suture regolabili proposto da Stirpe
- Ando used a silicone plate, containing a stainless steel wire.
- Parolini L-shaped
- AJL buckle

Video spugna

Nostalgia o progresso?

A Revival of Scleral Buckle?

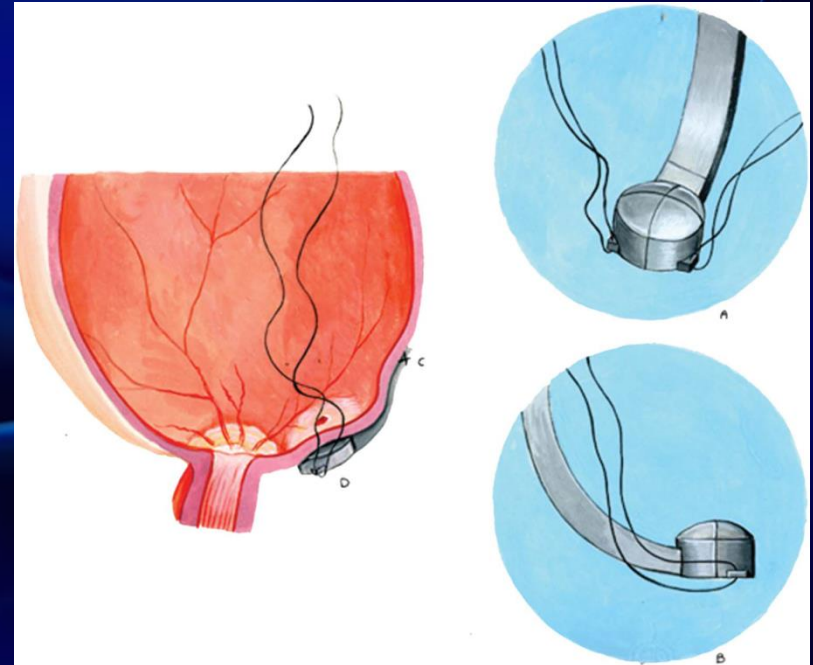
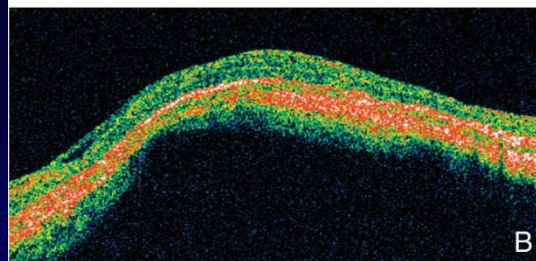
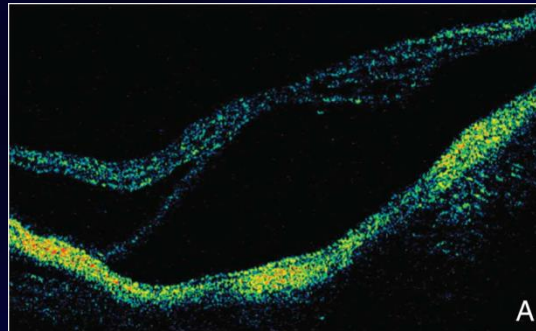
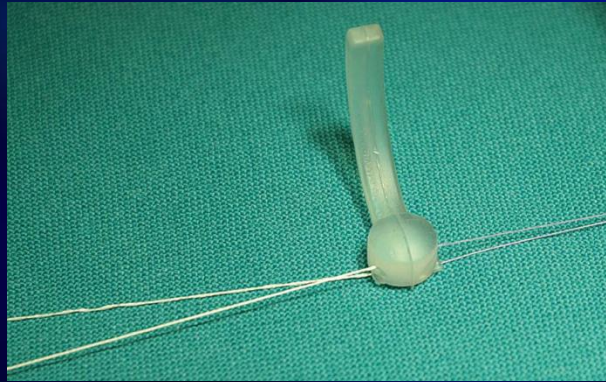


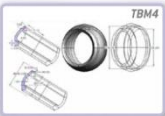
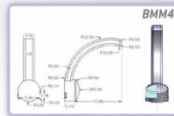
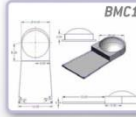


■ 60's



today

Piombaggio regolabile (Stirpe)



 <p>TBM4</p>		 <p>BMM4</p>	
 <p>BMC1</p>		 <p>MCB2</p>	
 <p>MCB1</p>			

MMD-723	Silbend MCB1 5x5mm	495567/R
MMD-724	Silbend MCB2 8x8mm	495572/R
MMD-725	Silbend BMC1 10mm	495574/R
MMD-726	Silbend BMM4 5mm	495576/R
MMD-727	Silbend TBM4 5x40mm	495578/R

Challenge

Siamet al reported the use of external posterior landmarks to allow better positioning of the indenting head, but this technique required superior oblique tendon rupture.

Siam AL, El-Mamoun TA, Ali MH. A restudy of the surgical anatomy of the posterior aspect of the globe: an essential topography for exact macular buckling. *Retina*. 2011;31(7):1405-1411.

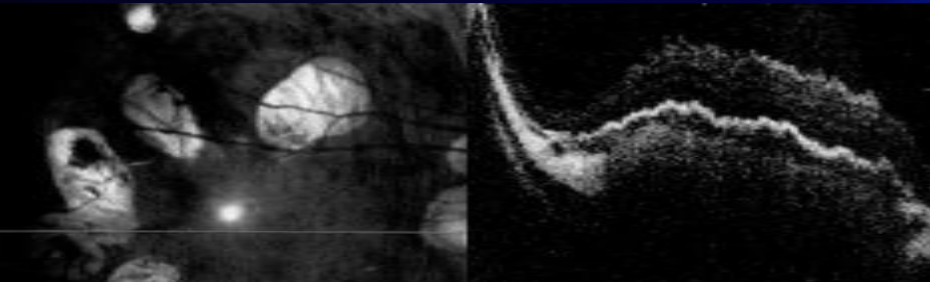
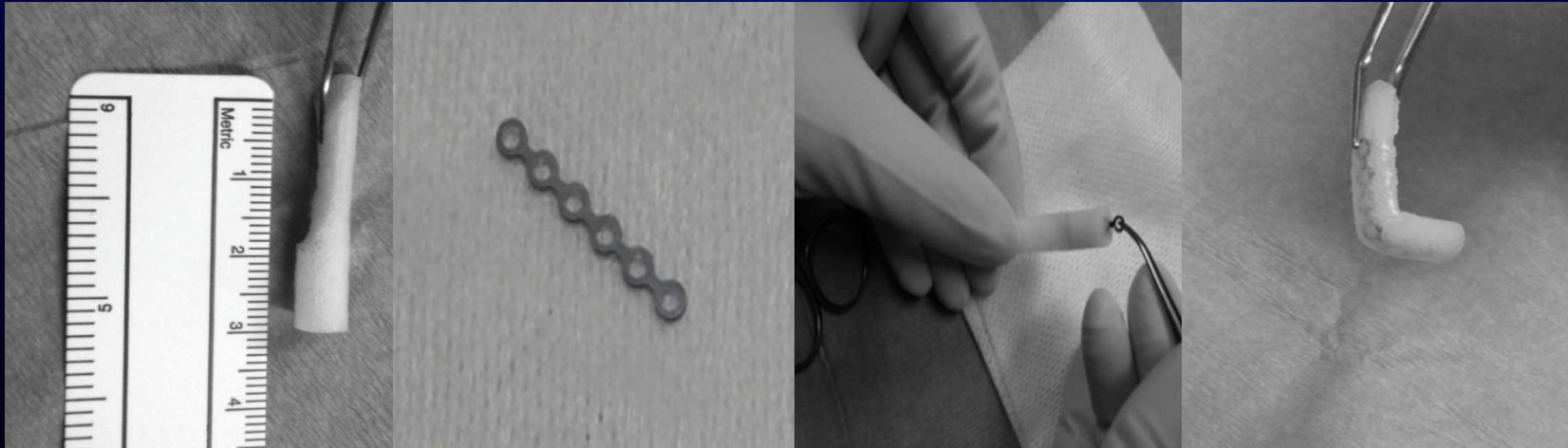
Stirpe et al reported an adjustable macular buckle but indicated that the lateral rectus should be disinserted to ensure correct positioning of the indenting platform.

StirpeM, Ripandelli G, Rossi T, Cacciamani A, OrciuoloM. A new adjustable macular buckle designed for highlymyopic eyes. *Retina*.2012;32(7):1424-1427.

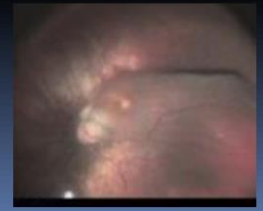
Piombaggio maculare L-shaped (Parolini)

- Spugna in silicone (Labtician 507 oval sponge) 7 mm larga, 5 mm spessa 3 cm lunga. A tunnel viene creato nella spugna in silicone con un ago 9 gauge
- Una placca in titanio (Mod MCP6TP, Tekka, Italy) lunga 15 mm e larga 2 mm viene inserita e posizionata all'interno del tunnel
- Controllo fundus mediante fibra ottica da 27G e BIOM
- Piombaggio è fatto scivolare lungo il bordo superiore del retto laterale nel quadrante superotemporale e suturato con suture 6/0 a 10 mm dal limbus
- 0.3 cc di SF6 e posizione faccia in basso per 3 giorni
-

Piombaggio maculare L-shaped (Parolini)

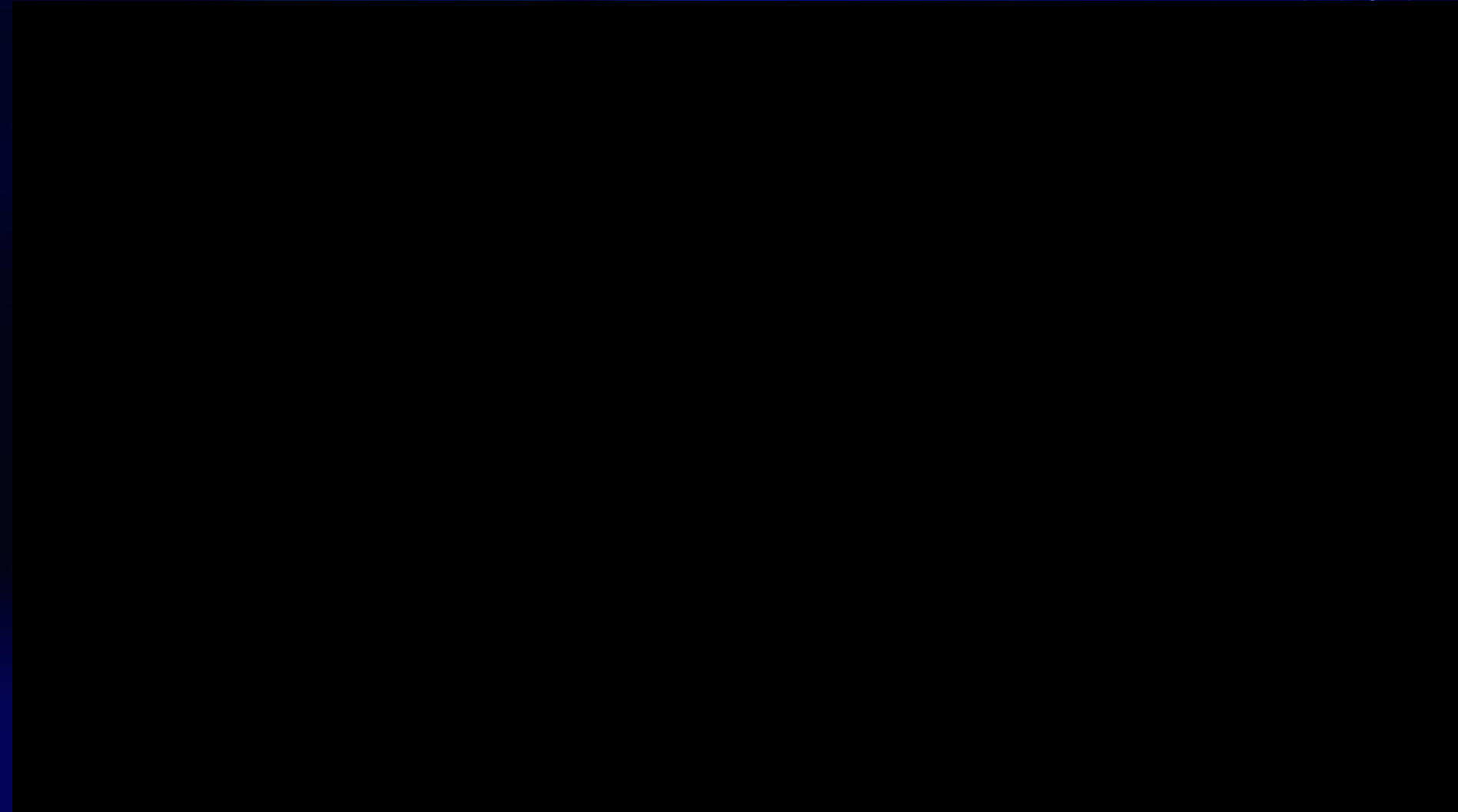


Parolini buckle

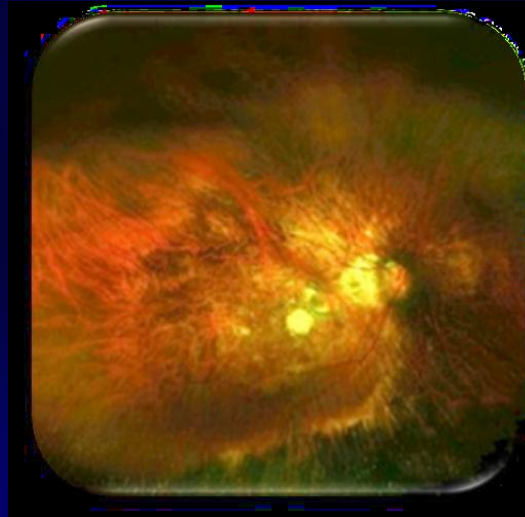
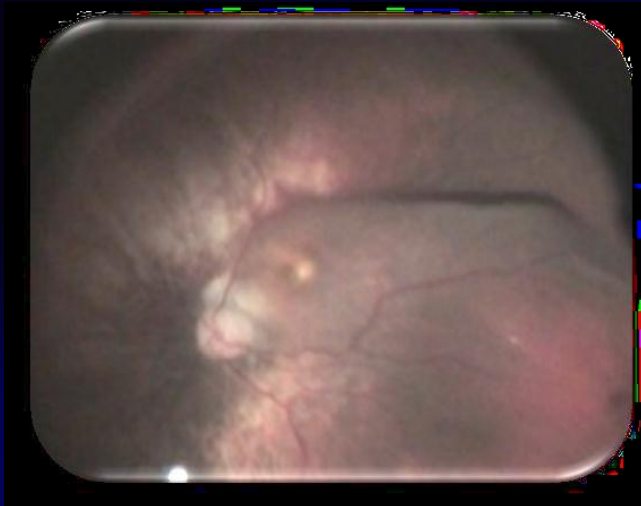


Piombaggio maculare L-shaped

VIDEO (Parolini)

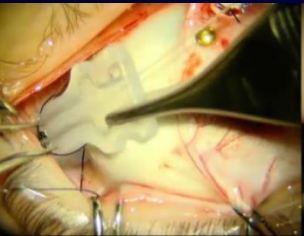


Mortada buckle



A 7mm silicone sponge explant cut for the proper length for each eye (35 – 45mm) is used. A 0.5mm orthodontic steel wire that is originally used for dental braces is used to strengthen the silicone sponge

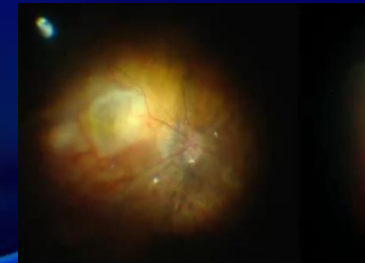
Ando and AJL buckle



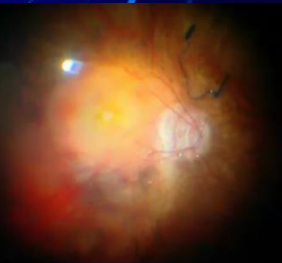
Ando Plombe



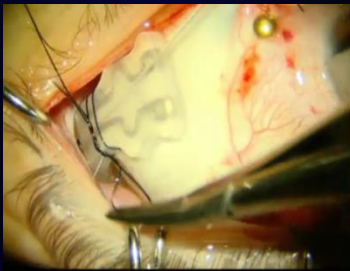
AJL Macular Buckle



Ando Plombe



AJL Macular Buckle



Ando Plombe



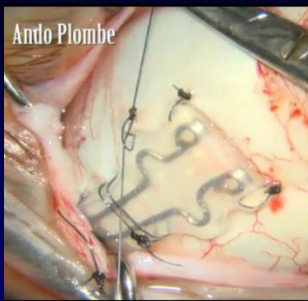
AJL Macular Buckle



Ando Plombe



AJL Macular Buckle



Ando Plombe



AJL Macular Buckle



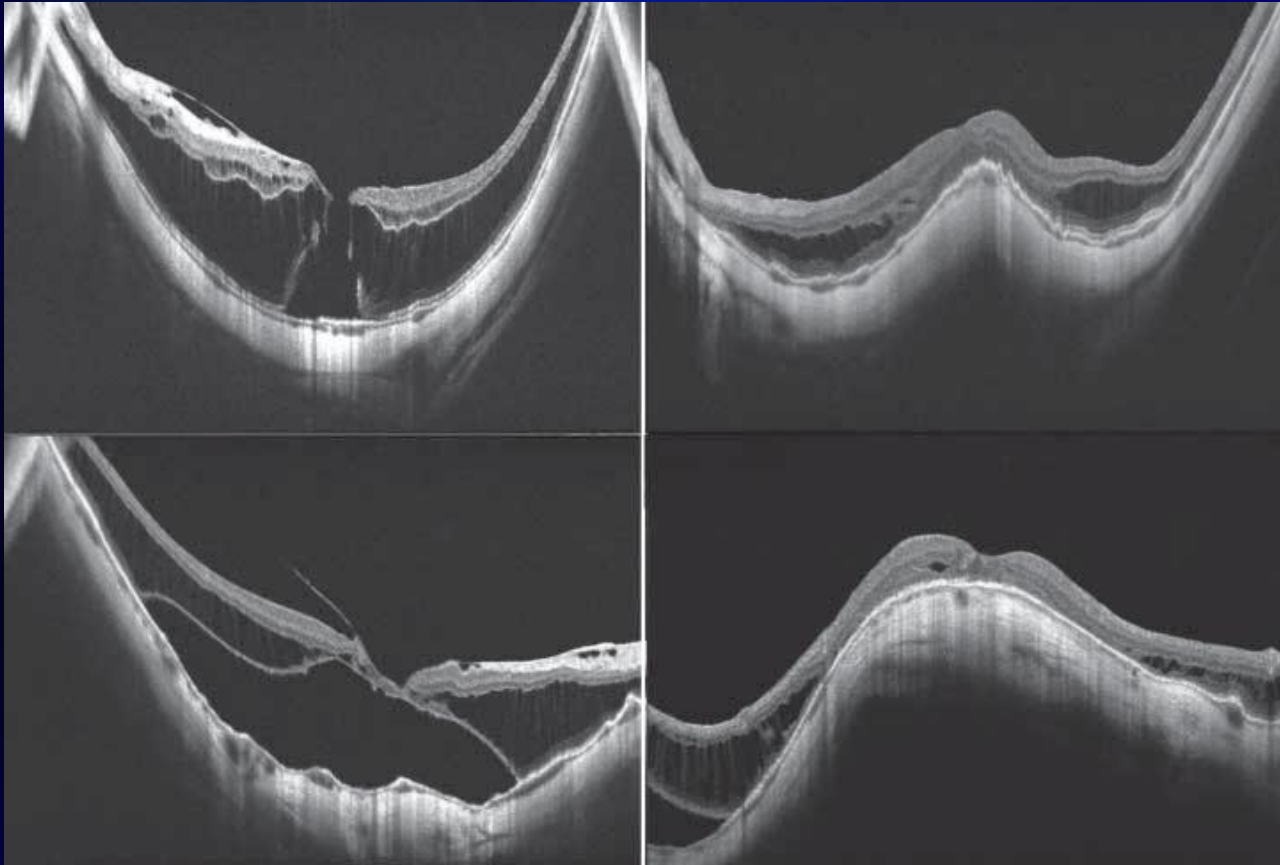
Ando Plombe



AJL Macular Buckle

Ando and AJL buckle video

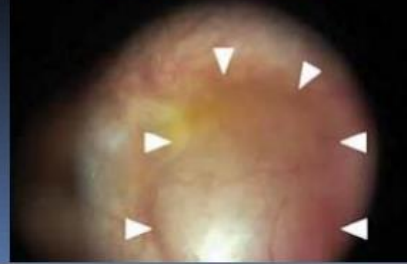
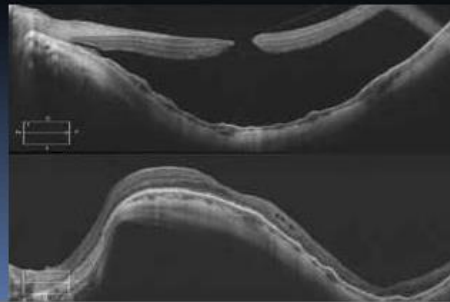
Illuminated Ando Plombe



Piombaggio sovracoroideale

Suprachoroidal Buckling

- First performed by Dr El Rayes.
- Illuminated 450micron catheter (MedONE Surgical)
- Dermal fillers, Helon 5/GV



Grazie per
l'attenzione

