

INTRADUCTAL MEIBOMIAN GLAND PROBING RELIEVES SYMPTOMS OF OBSTRUCTIVE MEIBOMIAN GLAND DYSFUNCTION

STEVEN L. MASKIN, MD
WWW.DRMASKIN.COM

DISCLOSURE: PATENT PENDING.
COMMERCIAL RELATIONSHIP: RHEIN MEDICAL

BACKGROUND: MEIBOMIAN GLAND DISEASE IS ARGUABLY THE MOST COMMON CAUSE OF DRY EYE AND HAS CERTAINLY BEEN THE MOST CHALLENGING TO TREAT. TRADITIONAL THERAPIES HAVE FAILED TO CONSISTENTLY PROVIDE EFFECTIVE RESULTS LEADING TO ONGOING SUFFERING AND FRUSTRATION FOR PATIENTS AND PHYSICIANS ALIKE.

PURPOSE : WE HAVE TAKEN A RETROSPECTIVE LOOK AT THE EFFICACY OF A NEW INVASIVE APPROACH TO TREAT SYMPTOMATIC OBSTRUCTIVE MGD.

METHODS: A PATENT PENDING METHOD AND DISPOSABLE INSTRUMENT WITH STAINLESS STEEL TIP WERE USED TO PERFORM INTRADUCTAL PROBING OF 25 CONSECUTIVE PATIENTS WITH OBSTRUCTIVE MGD.

RESULTS: 20 OF 25 PATIENTS COMPLAINED OF PRE-TREATMENT LID TENDERNESS OR SORENESS WHICH WAS IMMEDIATELY RELIEVED WITH PROBING. AT ONE MONTH POST PROCEDURE EACH (100%) OF THESE 20 PATIENTS CONTINUED TO HAVE DECREASED TENDERNESS OR SORENESS.

OTHER UNSOLICITED COMMENTS INCLUDED:

- 40% (8) NOTED INCREASED LUBRICATION.
- 25% (5) NOTED LESS FRICTION OR IMPROVED LID BLINKING COMFORT.
- 15% (3) NOTED A DECREASE NEED FOR ARTIFICIAL TEARS.
- 10% (2) NOTED DECREASED LIGHT SENSITIVITY.
- 10% (2) NOTED INCREASED VISION.

THE REMAINING 5 PATIENTS HAD NON SPECIFIC COMPLAINTS OF LID MARGIN CONGESTION. THESE 5 PATIENTS MADE THE FOLLOWING UNSOLICITED COMMENTS POST PROBING

- 40% (2) NOTED INCREASED LUBRICATION.
- 40% (2) NOTED DECREASED GUMMINESS AND FILMINESS.
- 20% (1) NOTED INCREASED VISION.

- 20% (1) NOTED DECREASED LID HEAVINESS.
- 20% (1) NOTED DECREASED LIGHT SENSITIVITY.

ONE ADDITIONAL PATIENT WITH LOCALIZED MATURE HORDEOLUM WAS PROBED WITHOUT RELIEF. THERE WERE NO COMPLICATIONS. TYPICAL IMPROVEMENT LASTED 4-6 MONTHS.

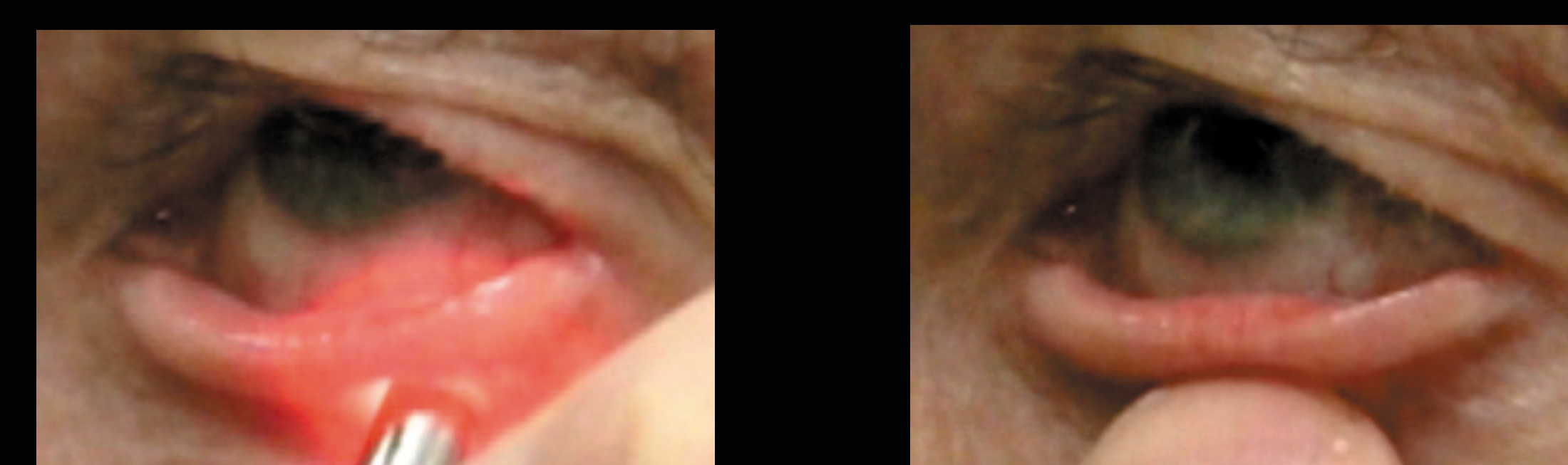
FINDINGS: SUGGESTION OF INTRADUCTAL FIBROTIC AND NEOVASCULAR MEMBRANES WERE FREQUENTLY IDENTIFIED. THESE WERE ABLE TO BE OPENED UP BY PROBING ALLOWING SEQUESTERED PLUG OF MEIBUM TO ESCAPE.

TECHNIQUE:

WE HAVE 2, 4, AND 6 MM STAINLESS STEEL STERILE SOLID WIRE PROBE CANNULAS AVAILABLE WITH ATTACHABLE ERGONOMIC HANDLE.



TUBE CANNULAS ARE ALSO AVAILABLE TO INJECT SOLUTIONS INTRADUCTAL.



WITH TRANSILLUMINATION.

WITHOUT TRANSILLUMINATION.

THE LID MARGIN AND GLANDS ARE EXAMINED WITH AND WITHOUT TRANSILLUMINATION TO EVALUATE PATENCY OF ORIFICE AND STATUS OF THE GLANDS, SPECIFICALLY LOOKING AT GLAND PROXIMAL AND DISTAL ATROPHY, LENGTH OF GLANDS AND SIGNS OF DUCTAL DILATION SUGGESTIVE OF PROXIMAL OBSTRUCTION. PALPATE GLANDS INDIVIDUALLY FOR GLAND TENDERNESS SEEN WITH INFLAMMATION AND OBSTRUCTION.

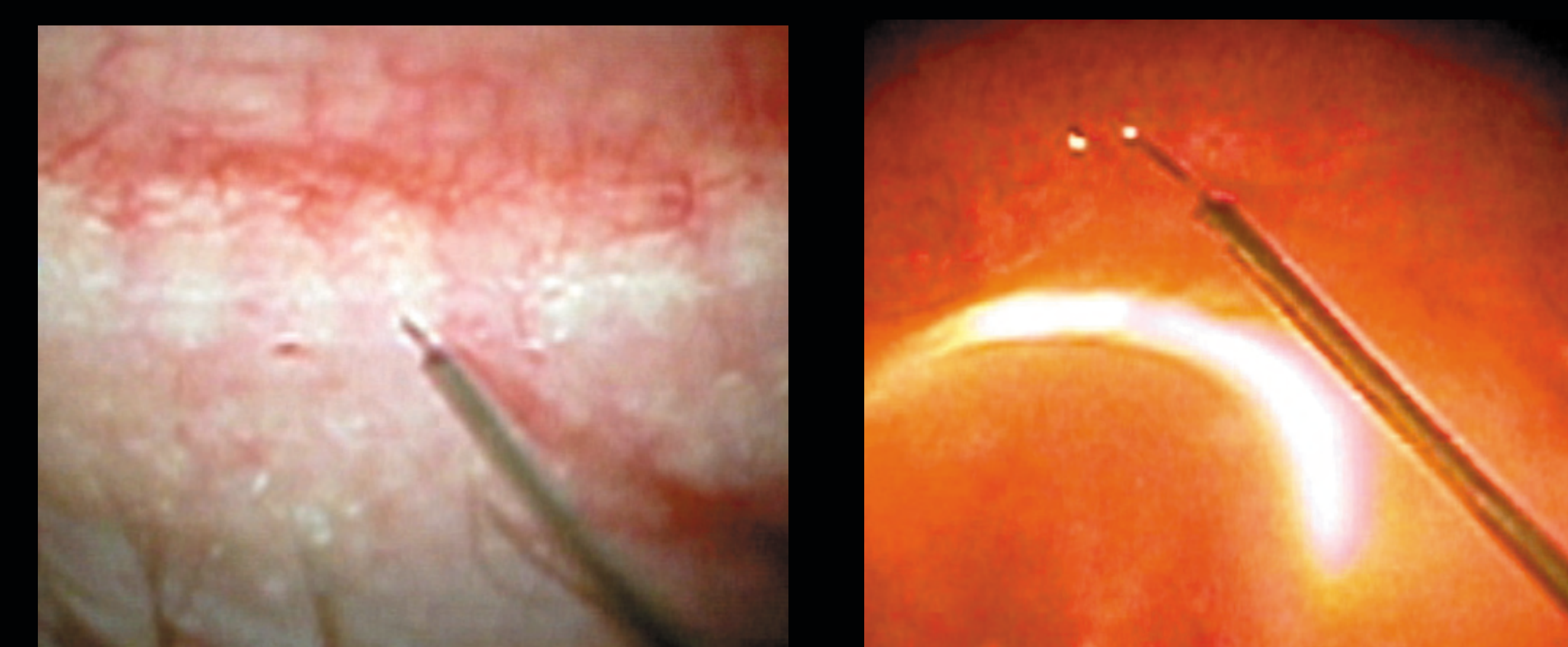


PALPATION OF LID FOR TENDERNESS SUGGESTIVE OF INFLAMMATION

BEGIN BY PASSING THE 2 MM PROBE THROUGH THE ORIFICE. A FINE ROUTER MOVEMENT MAY BE NEEDED TO FIND THE OPENING, ESPECIALLY IN SETTING OF ORIFICE METAPLASIA.

AFTER PENETRATING THE ORIFICE WITH THE 2 MM, THE 4 OR 6 MM PROBE IS USED DEPENDING ON THE LENGTH OF THE GLAND TO ACHIEVE COMPLETE PATENCY OF THE DUCTAL HIGHWAY.

RESISTANCE MAY BE ENCOUNTERED. RESPECTING THE LENGTH OF THE GLAND WILL PREVENT EXTENDING THE PROBING TOO FAR. THEREFORE, IF RESISTANCE IS OBTAINED, THE PROBE MAY BE UP AGAINST A FIBROTIC BAND. CHECK TO ENSURE THE PROBE IS CO-LINEAR TO THE GLAND, THEN PROVIDE ADDITIONAL FORCE TO POP THROUGH THE INTRADUCTAL SCAR.



PENETRATION WITH A 2MM PROBE. NOTE HEME AT ORIFICE OF ADJACENT GLAND.

4MM PROBE WITH TRANSILLUMINATION.

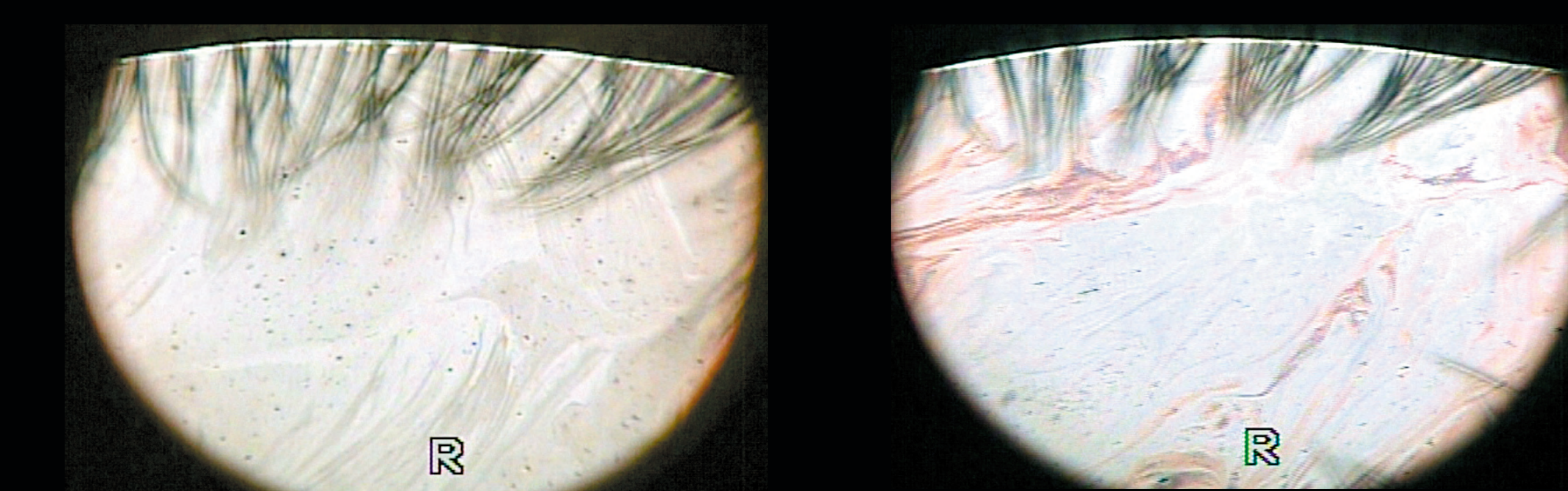


A PLUG OF SEQUESTERED MEIBUM.

AT TIMES A DROP OF HEME WILL BE NOTICED AT AN ORIFICE. (SEE ABOVE PHOTO) THIS MAY OCCUR AS THE PROBE PASSES THROUGH A FIBROTIC NEOVASCULAR SCAR OR SIMPLY A NEOVASCULAR MEMBRANE. PHOTO ON LEFT

IS AN EXAMPLE OF A PLUG OF MEIBUM FREED UP FROM BEHIND A NEOVASCULAR MEMBRANE. NOTICE THE MEIBUM BEING RELEASED ADHERENT TO THE PROBE AND A DROP OF HEME AT THE ORIFICE.

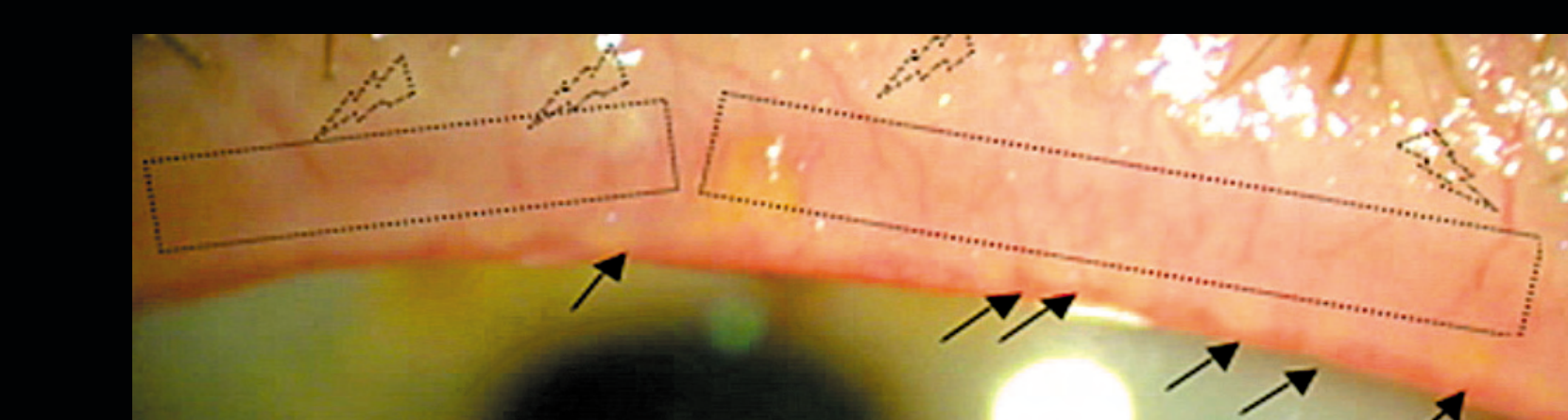
DR1 LIPID INTERFEROMETRY: BELOW IS A DR1 LIPID INTERFEROMETRY COURTESY OF DR. SCHEFFER TSENG SHOWING VIEWS BEFORE AND AFTER PROBING. NOTE THE DRAMATIC INCREASE IN TEAR FILM BROWN AND BLUE LIPID AFTER PROBING.



LIPID INTERFEROMETRY- BEFORE (LEFT) AND AFTER (RIGHT)

CLINICAL PHOTOS:

BELOW IS A BEFORE AND AFTER PHOTO SHOWING LESS DEEP LID MARGIN REDNESS, LESS PROMINENT SUPERFICIAL VESSELS AND REDUCED ORIFICE POUTING. TOGETHER THESE FINDINGS SUGGEST REDUCED CONGESTION CORRELATING WITH THE IMMEDIATE AND DRAMATIC REDUCTION IN TENDERNESS.



BEFORE (TOP) AND AFTER (BOTTOM) MEIBOMIAN GLAND INTRADUCTAL PROBING.



CONCLUSIONS:

INTRADUCTAL FIBROTIC AND NEOVASCULAR

CHANGES MAY EXPLAIN THE PERSISTENCE OF OBSTRUCTIVE MGD DESPITE EXHAUSTIVE THERAPIES DIRECTED AT THE LID MARGIN AND ORIFICE AND THE INCONSISTENT EFFECT OF WARM COMPRESSES AND LID MASSAGE. INTRADUCTAL MEIBOMIAN GLAND PROBING APPEARS HIGHLY EFFECTIVE IN QUICKLY RELIEVING INFLAMMATORY SYMPTOMS OF OBSTRUCTIVE MGD.

STEVEN L. MASKIN, MD
WWW.DRMASKIN.COM