

PATIENT MANAGEMENT BEFORE VITREORETINAL SURGERY

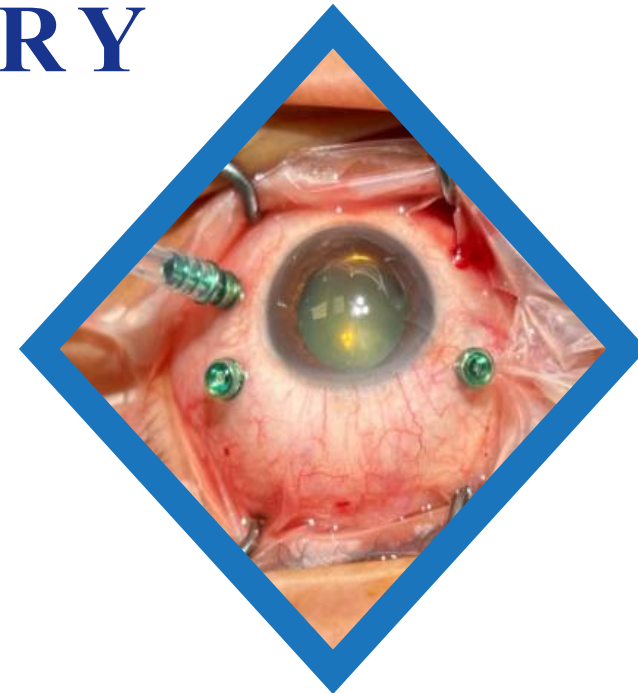
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1. Medical History

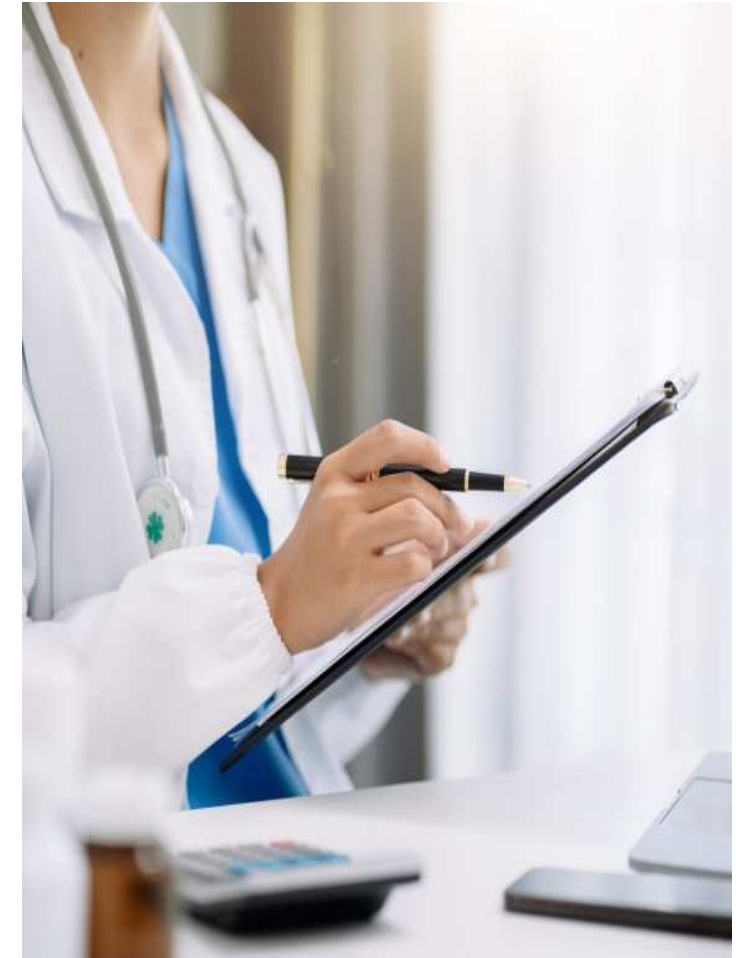
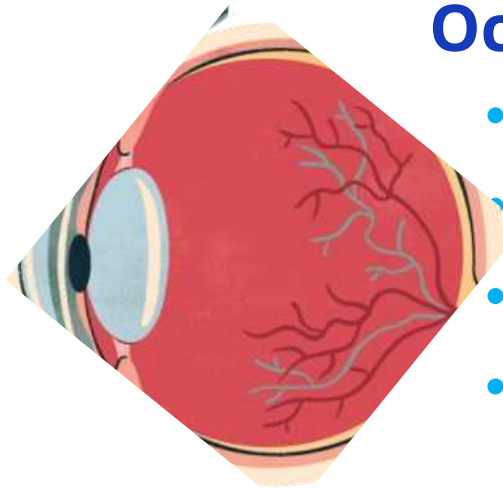
General Medical History

- Systemic diseases
- Previous surgeries
- Current medications
- Allergies
- Family history



Ocular History

- Previous ocular diseases
- Traumatic events (?IOFB)
- Previous eye surgery
- Current symptoms



1. Medical

Specific Risk Factors for Vascular Surgery

- Risk of thrombosis or bleeding
- Conditions that may affect anesthesia
- Psychological risk factors

General condition: Assess nutritional status, mobility, and the patient's ability to follow postoperative instructions.

Social support: determine if the patient has adequate post-operative support in terms of help at home, monitoring, or care.

Peri-operative bleeding risk*		
LOW Dental Minor Orthopaedic or general	INTERMEDIATE: Major Orthopaedic Urological Visceral	HIGH: Closed space surgery (e.g. intra-cranial, spinal canal or posterior eye chamber)



Pre-operative Management: When to Stop DOACs before a planned surgical intervention:							
Low risk: i.e. DOAC may not need to be discontinued <ul style="list-style-type: none">Perform procedure at trough level of DOACConsider scheduling intervention 18-24hrs after last intake and restart 6hrs later (equivalent of missing 1 dose Apixaban)	STANDARD RISK			HIGH RISK			
	Use table below to decide when DOAC needs to be stopped (last intake before procedure):						
	CrCl (min/ml)	DABIGATRAN		APIXABAN		RIVAROXABAN	
		Standard	High	Standard	High	Standard	High
	≥ 80	≥ 24h	≥ 48h	≥ 24h	≥ 48h	≥ 24h	≥ 48h
	50 - 80	≥ 36h	≥ 72h	≥ 24h	≥ 48h	≥ 24h	≥ 48h
30 - 50	≥ 48h	≥ 96h	≥ 24h	≥ 48h	≥ 24h	≥ 48h	
15 - 30	Contraindicated		≥ 48h	≥ 72h	≥ 48h	≥ 72h	
< 15	Contraindicated		Contraindicated		Contraindicated		

Algorithm for Managing Antiplatelet agents peri-operatively		Appendix 4
Decisions to be made on an individual patient basis balancing the peri-operative bleeding risk vs. thrombotic risk		
Peri-operative bleeding risk*		Increased risk of stent thrombosis associated with:
LOW Dental Minor Orthopaedic or general	INTERMEDIATE: Major Orthopaedic Urological Visceral	PATIENT Advanced age Diabetes Renal dysfunction Poor ventricular function
HIGH: Closed space surgery (e.g. intra-cranial, spinal canal or posterior eye chamber)		CORONARY ANATOMY Multiple lesions Long lesions Bifurcation or Ostial lesions Sub-optimal stent deployment
*Representative but not exhaustive list and patient specific factors also need to be taken into account in assessing bleeding risk		

Aspirin Monotherapy
Continue unless bleeding risk outweighs the risk of thrombotic complication (dependent upon indication)

Dual Anti-platelet therapy	
INDICATION Bare metal stent: 4weeks Drug eluting stent: 3-12 months (dependent upon stent) ACS/NSTEMI/STEMI: 1year	SURGERY Elective: defer until completion Emergency: continue Urgent: stop ADP Antagonist (and continue aspirin where possible) on consideration of bleeding vs. thrombotic risk and discussion with Cardiologist

Duration to withhold antiplatelets prior to surgery	
Aspirin/Prasugrel	7 days
Clopidogrel/Ticagrelor	5 days

Written by Consultant Cardiologist and Haematologist
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2. Ocular Examination

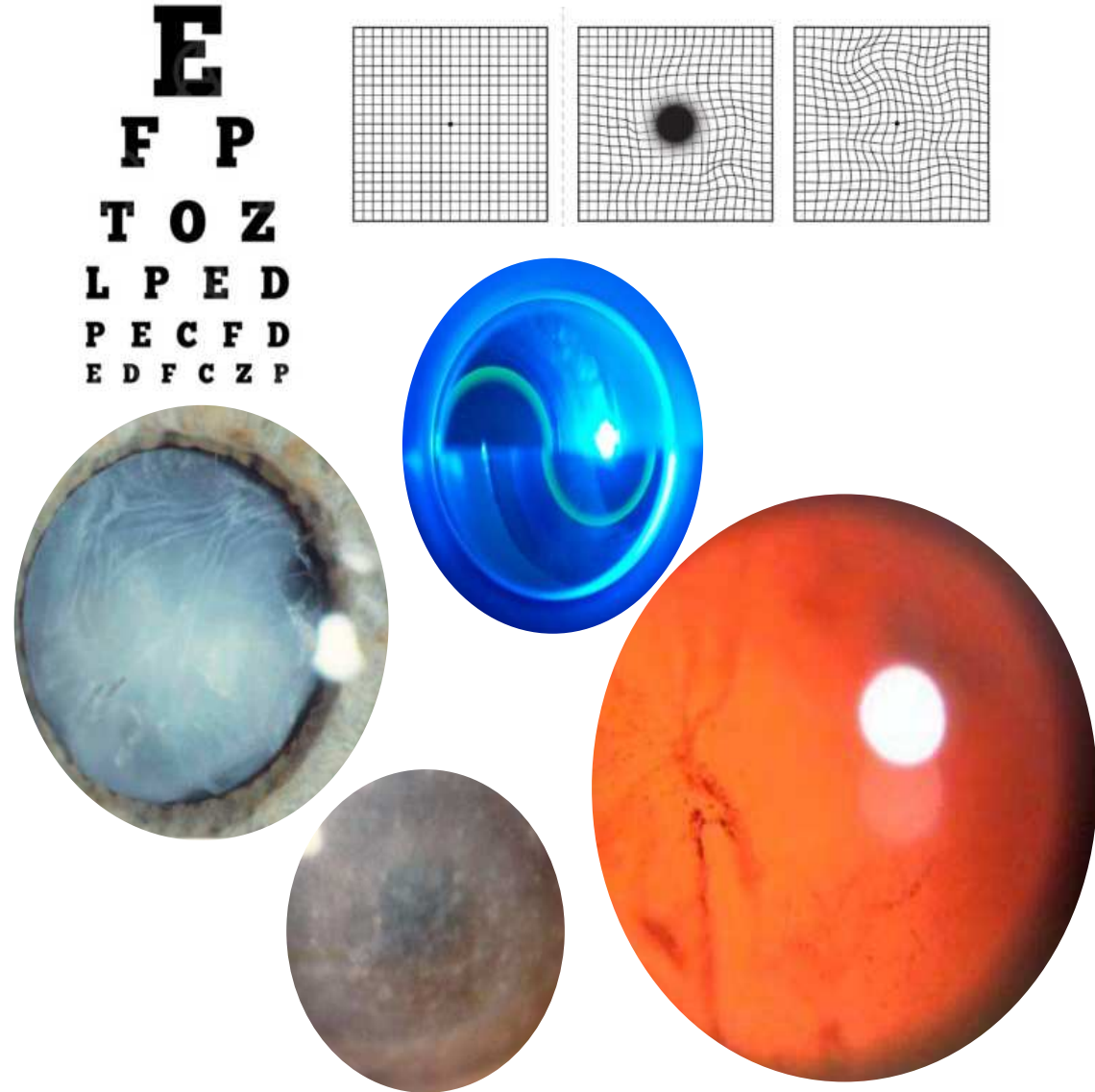
Visual Symptoms

Visual Acuity

Intra Ocular Pressure

Trasparency of Dioptric Media

Fundus Oculi



3. Optical Biometry

Phakic Eye



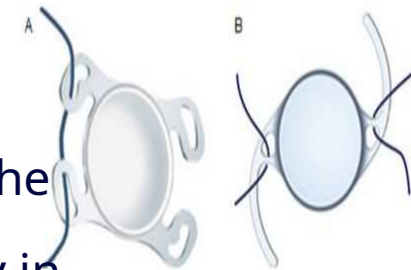
In phakic eyes, optical biometry helps assessing **axial length**, **anterior chamber depth**, and **corneal curvature** to determine appropriate lens power for intraocular lens (IOL) implantation, should cataract surgery be required later.

Pseudo-phakic Eye

In pseudophakic eyes, the optical biometry helps to measure the **IOL position** and the **axial length**, which is critical for calculating the appropriate postoperative refraction. Pseudophakic eyes can sometimes develop *complications* like posterior capsule opacification or IOL dislocation.

Aphakic

This is particularly important when planning for **secondary IOL implantation** or for the assessment of retinal conditions, as the *refractive state* of the eye changes significantly in aphakic eyes.



4. B-Scan Ultrasound

Useful for the evaluation of:

- Retinal Detachment (especially diabetic TRD, RD associated with VH)
- Non-visible tears;
- Vitreous Detachment or Hemorrhage;
- Advanced cataracts;
- Cloudy cornea;
- IOFB;
- Tumor lesions;
- Exudative detachments;
- Macular Pathologies (like macular holes, epiretinal membranes, or macular edema);



Benefits

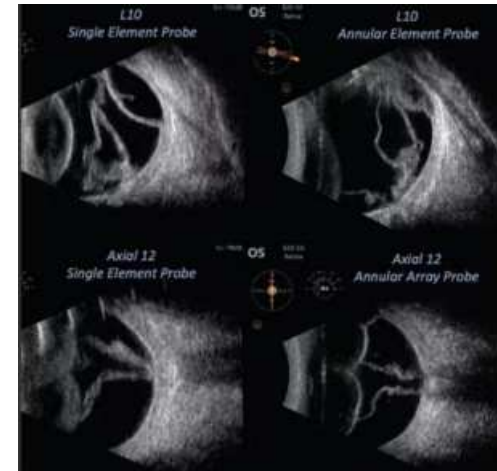


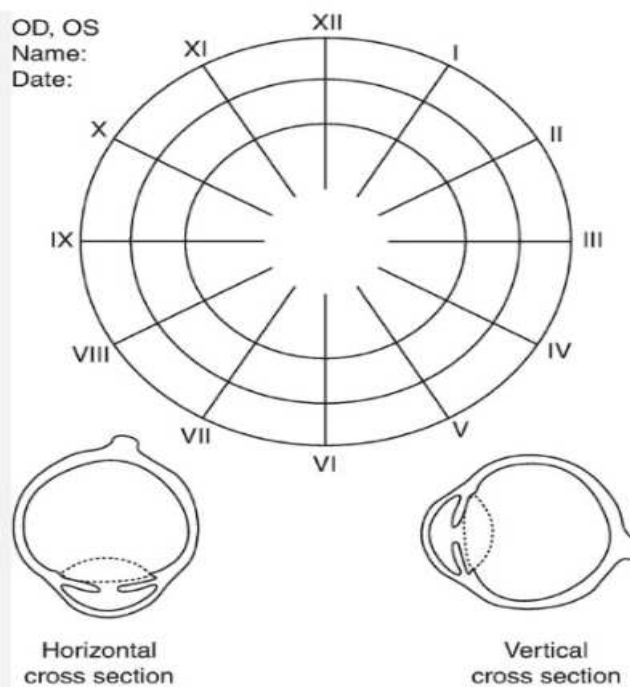
1. Non invasive
2. Real-time imaging
3. Wide availability

Limitations



1. Resolution
2. Operator Dependency

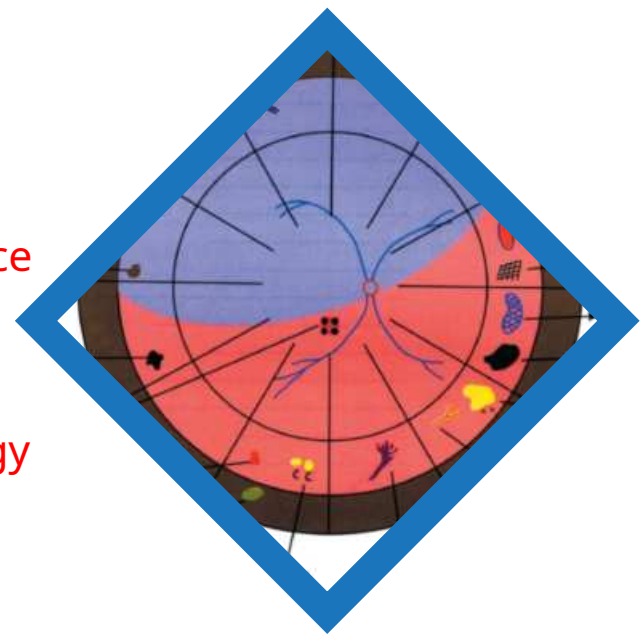




5. Retinal Drawing

- Detailed Mapping of Retinal Pathology
- Assessment of Retinal Detachment
- Surgical Planning (choosing the surgical technique)
- Tracking Disease progression
- Legal and clinical records

- Allows surgeons to document the location, size, and extent of retinal pathologies
- Helps in identifying areas of retinal tears or breaks, areas of detachment, and the presence of proliferative vitreoretinopathy or other complications that might affect surgery
- Helps surgeons to plan their approach by providing visual reference of the retinal pathology
- Can guide surgeons in determining the urgency of the surgery



6. Fluorescein Angiography

Provides essential information that aids in **decision-making, surgical planning, and predicting the outcomes** of surgery.

Advantages

Comprehensive Vascular Information

Real-Time Imaging

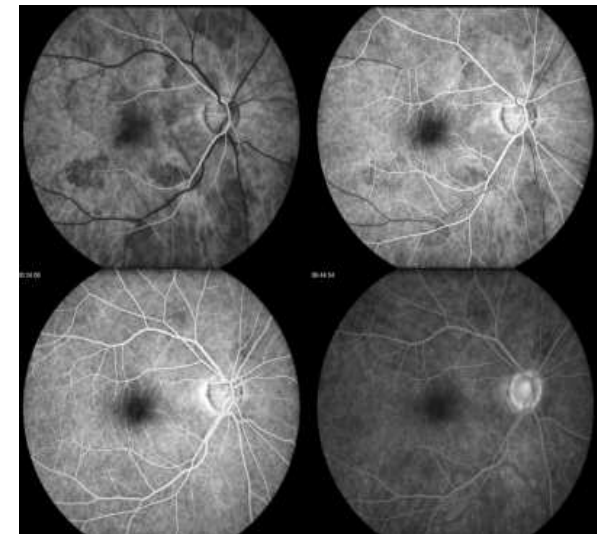
Guides Laser Therapy

1. Assessment of Retinal Vascular Health:

- Detecting Retinal Pathologies
- Vascular Leakage and Edema
- Choroidal Pathologies

2. Evaluating Preoperative Macular and Retinal Conditions:

- Diabetic Retinopathy
- Age-related Macular Degeneration
- Macular Edema



Limitations

Invasive Procedure

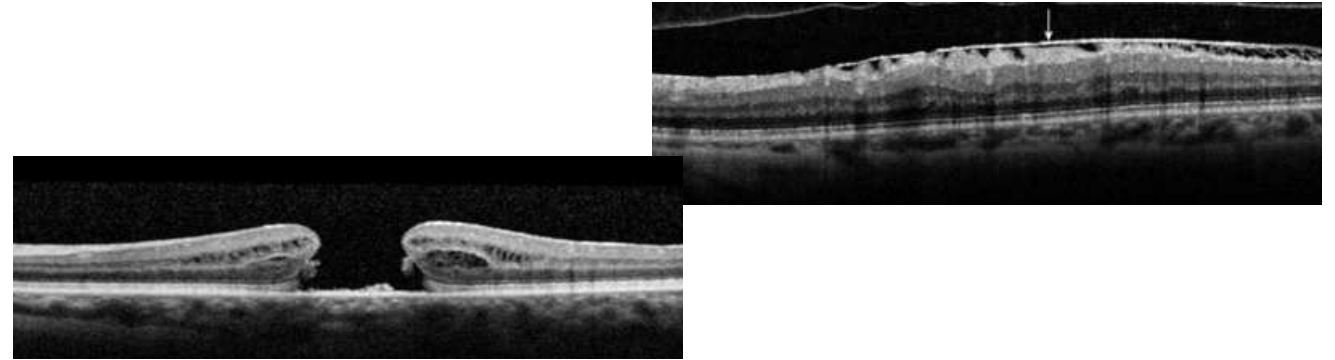
Limited Visualization of Deeper Structures

3. Identifying Pathologies Not Visible on Other Imaging

7. OCT / OCT-A

Optical Coherence Tomography: it offers high-resolution imaging of retinal layers and can help evaluate a variety of retinal conditions

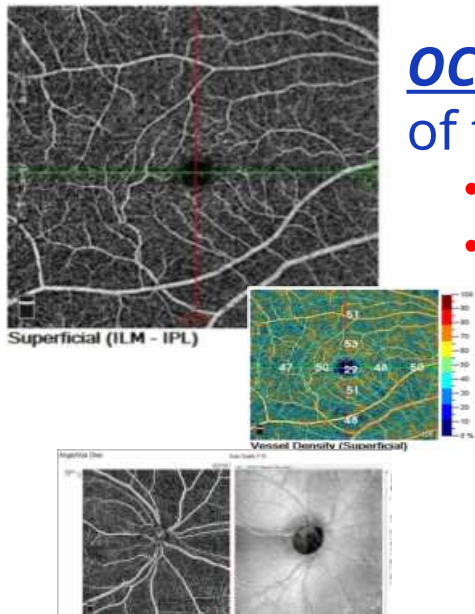
- Macular Pathologies
- Assessment of Retinal Thickness
- Evaluating Retinal Detachment
- Diabetic Retinopathy
- Ellipsoid zone - Prognosis



OCT-A captures the blood flow in the retinal and choroidal vessels, providing a map of the microvascular network in real time.

- Visualizing Retinal Microcirculation
- Diabetic Retinopathy: identifying areas of ischemia or abnormal neovascularization can help determine the need for laser treatments or vitrectomy and plan for any necessary interventions during surgery.

Choroidal Neovascularization (CNV): essential for planning treatment strategies, including the potential need for anti-VEGF injections or laser photocoagulation, prior to vitreoretinal surgery.



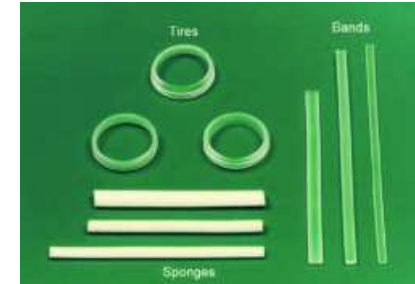
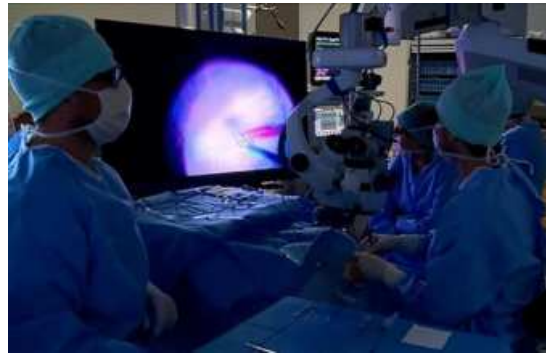
8. Patient Counseling

- ✓ Accurate explanation of the pathology
- ✓ Therapeutic options
- ✓ Risks/Benefits of surgery
- ✓ Prognosis
- ✓ Possible need for multiple surgeries
- ✓ What to expect after surgery
- ✓ Informed consent



9. Vitreoretinal

- Custom packs (23-25-27 Gauge)
- Buckle-Tires-Sponges-Band
- Microscope
- Visualization systems (Panfundoscopic lenses, 3D)
- Chandeliers
- VR instruments
- Cannulas and needles
- Contact lenses
- Endolaser fibers
- Endodiathermy
- VR forceps and scissors
- Silicone Oil
- Gas
- Vitreous dyes
- Sutures
- Viscoelastic
- AS instruments - IOLs



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Grazie

A scenic view of a coastal town, likely Giardini Naxos in Sicily. The image shows a sandy beach curving along the shore of a turquoise sea. In the background, a rocky island with some vegetation and a small building is visible. The town's buildings are built on a hillside overlooking the sea. The word "Grazie" is written in a large, green, cursive font across the center of the image.