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## INTRODUCTION

The cutaneous radiation syndrome (CRS) constitute the most frequent accidental radiological event. It is caused by complex interactions between antiproliferative and proinflammatory process, following a clinically well-defined time pattern.

The “Hospital de Quemados del Gobierno de la Ciudad de Buenos Aires” (Burn Center) is one of the reference hospitals of the Medical Radiological Emergency Response Network of Argentina. In the frame of an agreement between the Burn Center and the Nuclear Regulatory Authority, a research project for diagnostic and therapeutic approach of CRS is in progress.

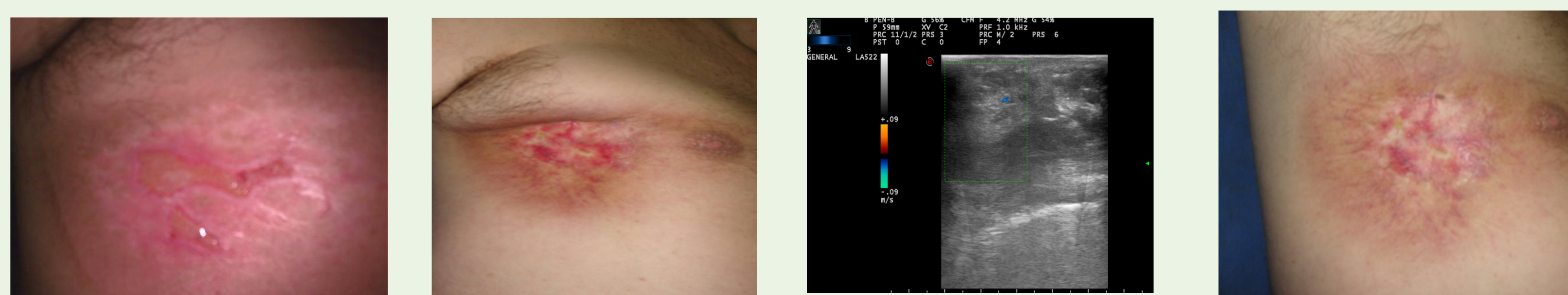
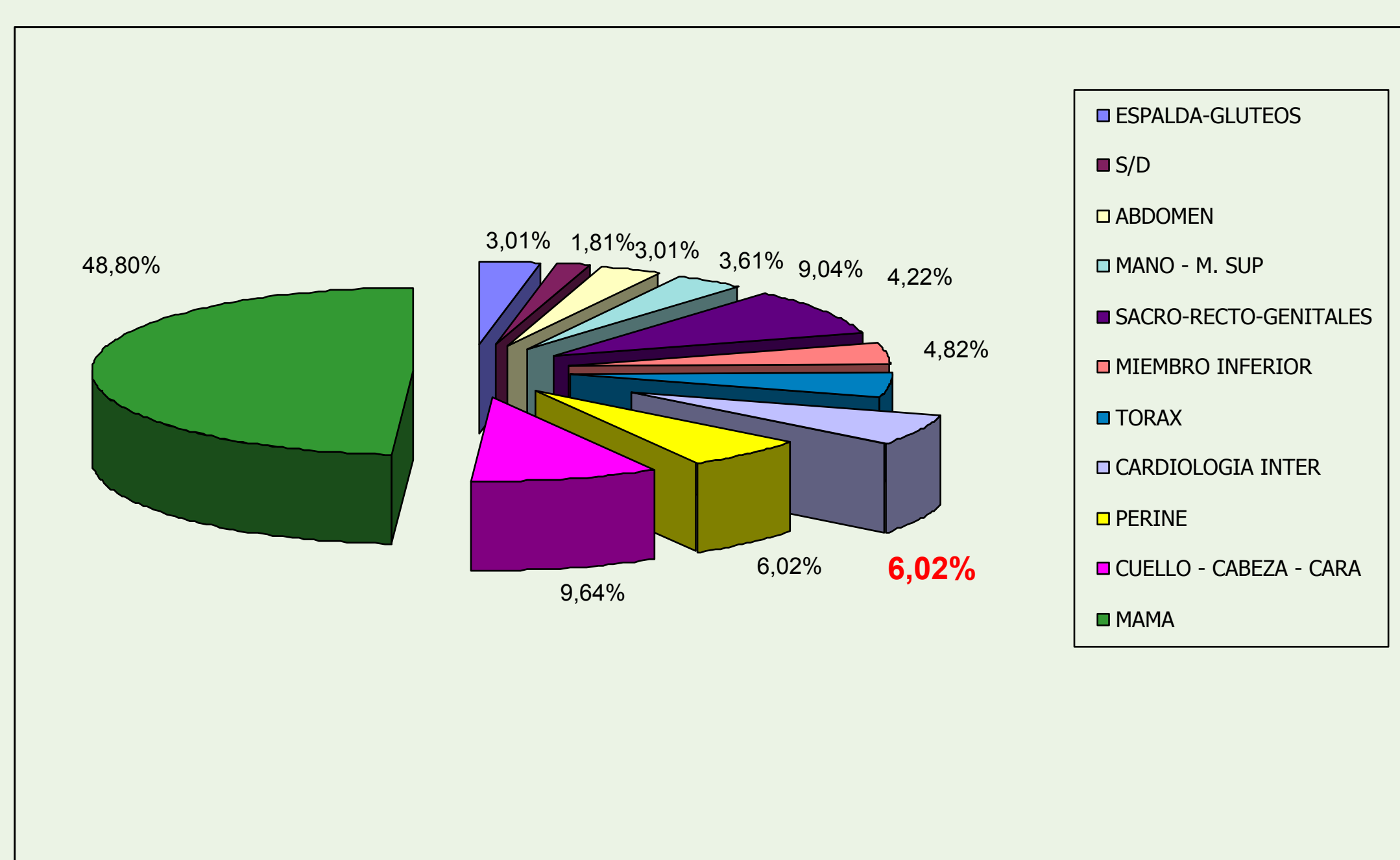
**OBJECTIVE:** The purpose of this work is to review the diagnosis, treatment and follow up of 8 cases with fluoroscopically induced injuries treated in the Burn Hospital of Argentina.

## MATERIALS AND METHODS

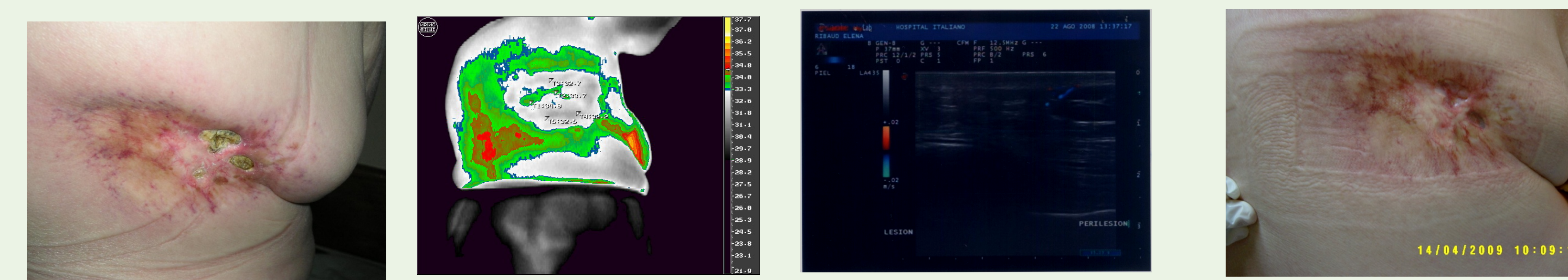
Of the 166 patients with localized radiation injuries were assisted, which developed acute and/or late CRS, were included in this protocol and treated with an equivalent therapeutic scheme. From which 8 (3 women and 5 men) corresponded to interventional procedures. Patients displaying acute and/or late cutaneous reactions were classified according to the toxicity criteria of the Radiation Therapy Oncology Group (RTOG) and the European Organization for Research and Treatment of cancer (EORTC), grades 0 to 4. Lesions occurring within 90 days after exposure were considered acute reactions, whilst those appearing after the 90 days, were considered delayed reactions. All cases were treated with the established protocol (topic administration of collagenase or silver sulfadiazine with lidocaine, associated with systemic administration of pentoxifylline and anti-oxidants. For closed lesions the local topic superoxide dismutase (SOD) instead of silver sulfadiazine. Lidocaine provides local anesthesia, diminishing the pain; vitamin E and SOD reduce free radicals toxicity; silver sulfadiazine acts as a local bacteriostatic agent, and pentoxifylline prevents ischemia-reperfusion phenomena.

## RESULTS AND DISCUSSION

Patients experienced spontaneous venous type bleeding that resolved with local compression .The area appeared as cured

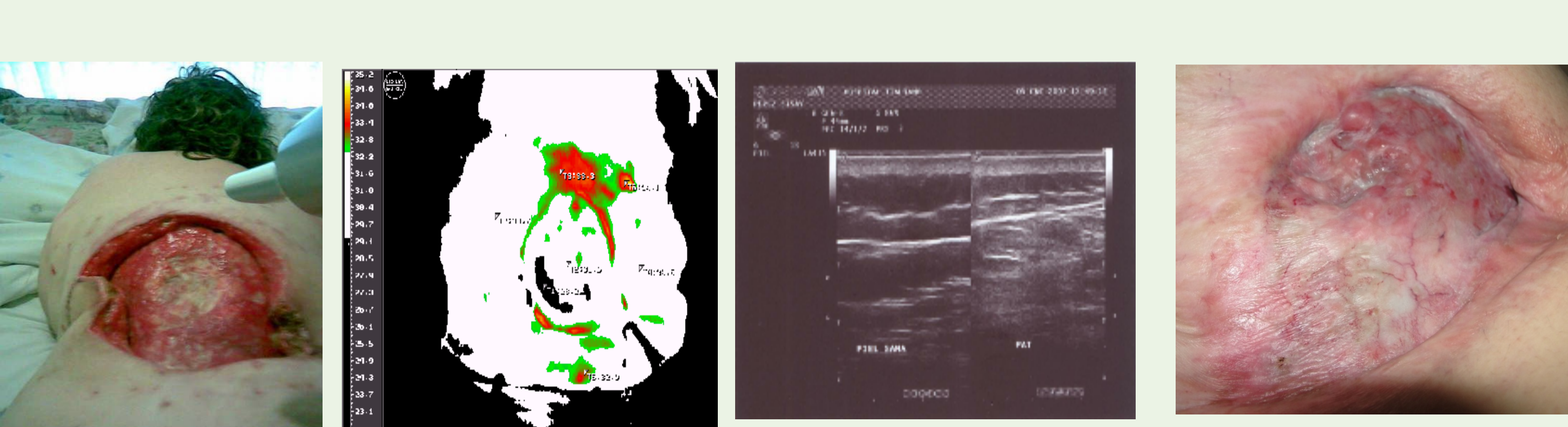
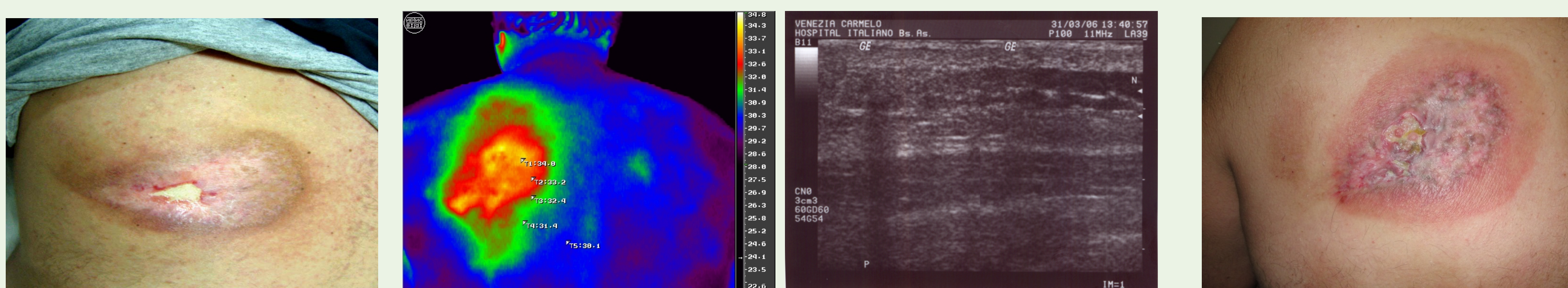
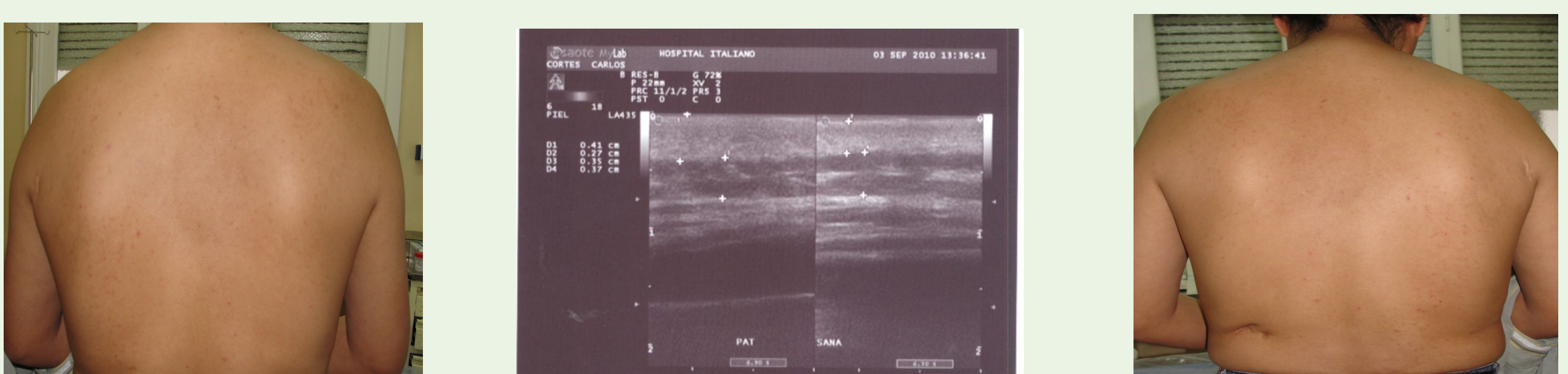
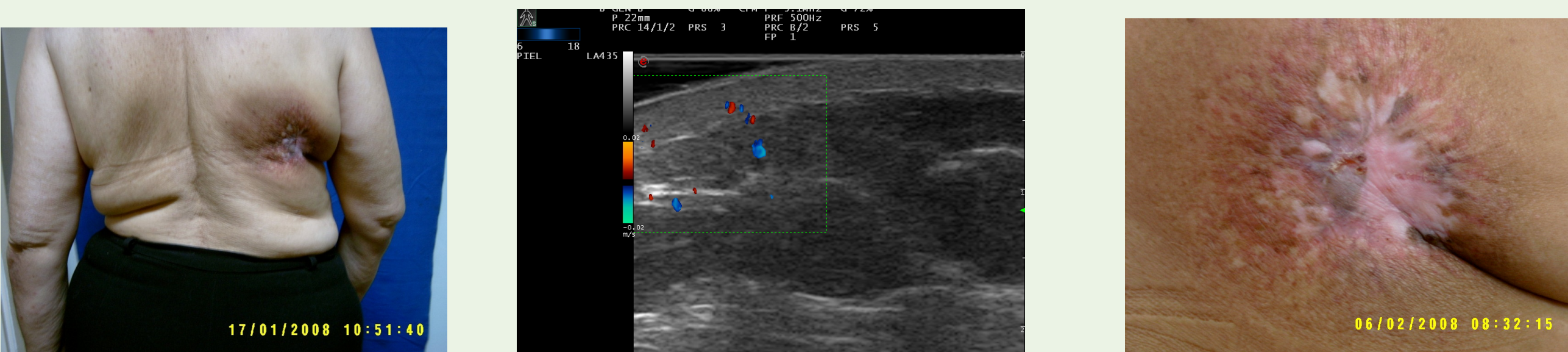


Partial response + pain+ acute repetitive crisis



Complications attributed to radiation exposure + comorbidity factors

Cases showed favorable local recovery and partial to complete remission of signs and symptoms after 5 to 12 months of the beginning of the treatment



Inflammation and ulceration of the frontal area correlating with a significantly higher skin temperature, in the telethermography

Color Doppler ultrasound: left frontal area showing vascular obliteration

## CONCLUSIONS

Prognosis was serious in all cases. In those cases that interrupted the prescribed treatment, severe pain and lesions reappeared. Due to the cyclic evolution and tendency to chronification of these lesions we emphasize the importance of long term follow up, including both clinical and psychological aspects. Vulnerability to trauma of the affected areas was observed. According to diagnosis, a radiation origin should be considered for all skin lesions occurring within few weeks/ month of fluoroscopically guided procedures unless a definitive alternative diagnosis is established.