environment for healthcare management. Hospital reimbursement income dropped dramatically, by as much as 30% in the first half of the year compared to the previous year, particularly in hospitals that treated more COVID-19 inpatients. This alerted an urgent need for subsidies to sustain the healthcare system. Evidence suggested that the quality of care was maintained in medical and surgical fields such as acute myocardial infarction and insufficiency fractures, even under a stressful working environment during the pandemic.

Conclusion: The system developed in this project demonstrated a prototype that could potentially be implemented at the national level to rapidly monitor the impacts of pandemics on healthcare systems, enabling policymakers and healthcare administrators to respond more effectively and timely.

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Single Contaminated Patient Management - A Case Report

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Summary: The management of chemically contaminated patients poses a formidable challenge to the emergency department, necessitating a complex approach to patient care. While the standard emergency medicine training predominantly focuses on clinical topics, the emergence of chemically contaminated cases mandates a comprehensive understanding of management aspects such as suspicion in exposure contexts, decontamination procedures, prevention of personnel contamination, and tailored treatment modalities.

In August 2024, a 59-year-old patient was admitted to the Emergency Department (ED) after a workplace accident involving a traumatic impact with a solid object. Upon arrival, the patient was conscious, hemodynamic, and respiratory stable, having as main complaints sudden blindness and pain in the right lower limb, revealing an open fracture of the tibial plateau. A rapid medical history elucidated that the patient had been subjected to exposure from an unidentified container of acid, an incident undisclosed by the pre-hospital team. After a thorough patient history was obtained, the individual was triaged as chemically contaminated, with the contaminant identified as a mix of nitric and hydrofluoric acid. The patient was promptly isolated, decontaminated, intubated, and provided with provisional fracture fixation.

This case aligns with existing literature, as most chemically contaminated patients arriving in EDs are exposed due to occupational or accidental household incidents. However, most hazardous materials (HAZMAT) hospital protocols are designed for mass casualty contamination events, requiring extensive human, material, and structural resources. They are often excessive when handling these single-patient cases. The complexity of these protocols makes them hard to use and not practical in overcrowded EDs. Therefore, developing and implementing user-friendly protocols for managing individual HAZMAT patients in the ED would be beneficial. Additionally, regular training should be provided not only for emergency medicine personnel but also for the connecting specialties dealing with these patients, including anesthesiology, surgery, gastroenterology, or ophthalmology.

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Establishment and Evaluation of Crush Injury Models in Large Animals with Varying Degrees of Severity

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Introduction: Crush injury is a type of tissue damage caused by external pressure on a part of the body, commonly seen in natural disasters, traffic accidents, and other scenarios. The severity of the injury is closely linked to patient prognosis, making the establishment of appropriate animal models crucial for crush injury research.

Methods: Bama miniature pigs were randomly assigned to three groups, subjected to a 10-fold body weight pressure on the hindlimb muscles. The duration of compression was controlled to simulate mild, moderate, and severe crush injuries. Ultrasound imaging assessments were performed before compression and at 0, 4, 24, and 72 hours post-decompression. Blood samples were collected at each time point for biochemical analysis. At the study's conclusion, muscle tissue from the compressed areas was collected for histopathology.

Results: Ultrasound imaging showed that in the mild group, muscle echogenicity was slightly increased with mild structural disruption; in the moderate group, echogenicity was enhanced, with ground-glass changes; in the severe group, muscle echogenicity was chaotic, with a mesh-like hypoechoic pattern and edema in the fat layer. Biochemical analysis revealed a trend of initial elevation followed by a decline in CK, CK-MB, and potassium (K) levels within groups. Intergroup comparison showed a progressive increase in these markers with the severity of injury, especially in the severe injury group, which exhibited the highest levels. Histopathological analysis showed widespread muscle necrosis, vascular rupture, and inflammatory cell infiltration in the severe injury group, while mild and moderate

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