综上，本文为检测早期阿尔兹海默症的标志物设计了一种基于金膜-六方氮化硼-二硫化钼的 SPR 传感器，并且优化了各层之间的参数，使得其能更好地完成检测目标，显著地提高了检测灵敏度的同时降低了检测限，降低了检测成本，为治疗和预防阿尔兹海默症做出了较为突出的贡献。

УДК 61

L-精氨酸诱导小鼠急性胰腺炎模型的构建

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Summary. *In order to construct a more ideal acute pancreatitis model，the optimal modeling time and 20 % L-arginine dose were selected for the mouse acute pancreatitis model, we were used to accurately determine and analyze the serum amylase activity, white blood cell count, pancreas pathological tissue paraffin section.The results showed that the best conditions were 4 g/(kg·bw）and 6 h.*

急性胰腺炎（Acute Pancreatitis，AP）是胰酶激活后引起胰腺组织自身消化所致的急性炎症介质反应，可诱发全身炎性介质反应，并恶化为多器官衰竭甚至死亡。目前，AP 在犬猫中发病率非常高，但临床对于其发病原因及其发病机制知之甚少，迫切需要建立一种理想的 AP 动物模型供其相关研究。本试验采用科学的方法在前人基础上进行改进，全面系统的比较不同时间，不同剂量 L-精氨酸最佳的造模条件，以期为临床研究和医治 AP 提供稳定的动物模型。

1.试验方法

试验前禁食 12 h，自由饮水。将小鼠随机分成 9 组每组 6 只，分别为对照组、不同时间组和不同剂量组。不同剂量组每组注射剂量分别为 2 g/(kg·bw）、4 g/(kg·bw）、6 g/(kg·bw）、8 g/(kg·bw）的 20 %L-精氨酸，分三次注射，每次间隔为 20 min，同时对照组注射等体积 0.9 %Nacl。不同时间组分别于注射后 6 h、12 h、24 h 和 48 h 进行取样。收集血液，一部分用于血常规检查，剩余部分离心制备血清用于血清淀粉酶活性的测定；分离各组小鼠的胰腺组织，用于制备病理组织切片。

2.试验结果

2.1 小鼠状态检查结果

本试验模型对照组小鼠情况正常，各试验组小鼠均出现明显的精神恍惚，不爱吃食，步态不稳，无精打采等现象。其中造模 6 h、12 h 组；给药剂量为 4 g/(kg·bw)、6 g/(kg·bw）、8 g/(kg·bw）组小鼠出现聚集成堆，而且个别小鼠还有呼吸加深、加快的现象，尤其是 6 g/(kg·bw）、8 g/(kg·bw）的小鼠呈现精神萎靡，团索一起，饮食废绝，体重明显减轻，剂量为 8 g/(kg·bw）的小鼠症状最为严重，注射 2 h 小时内死亡，死亡率 100 %；24 h、48 h 组小鼠精神状态有所好转。

2.2 白细胞数量的测定

试验发现，与对照组进行对比，时间组和剂量组小鼠的白细胞数量都有明显的上升，其中 6 h、12 h、24 h 组小鼠的白细胞数量极显著上升（$P < 0.01$），48 h 组小鼠白细胞数量显著上升（$P < 0.05$）。剂量组小鼠的白细胞数量均极显著升高（$P < 0.01$）。

2.3 血清淀粉酶活性测定结果

试验发现，与对照组进行对比，时间组和剂量组小鼠的血清淀粉酶活性均极显著上升（P < 0.01），见表 3、4。通过试验结果表明实验小鼠已经发病，需要进一步观察胰腺组织的病理变化，进行综合判断小鼠的急性胰腺炎的病情状况。

2.4 胰腺组织病理形态学检查结果

如图 1 所示，从病理切片结果显示，按炎症分级情况，进行病理学评定：正常实验小鼠的胰腺组织纹理清楚，腺泡细胞形态正常，未见炎性细胞浸润、水肿、充血和组织坏死（图 A）；剂量组和时间组小鼠胰腺组织都出现不同程度的组织崩解，腺泡细胞坏死，胰腺导管增生及扩张，局部有充血并伴有大量淋巴细胞、单核细胞浸润(图 B、C、D、E、F、G、H)，尤其以 6 h、12 h 最为严重（图 B、C），24 h 胰腺组织病变程度降低（图 D); 2 g/(kg·bw）剂量组胰腺实质改变，可见少量的点状出血点和水肿（图 F); 4 g/(kg·bw）、6 g/(kg·bw）剂量组胰腺组织炎症较明显（图 G 和 H)。

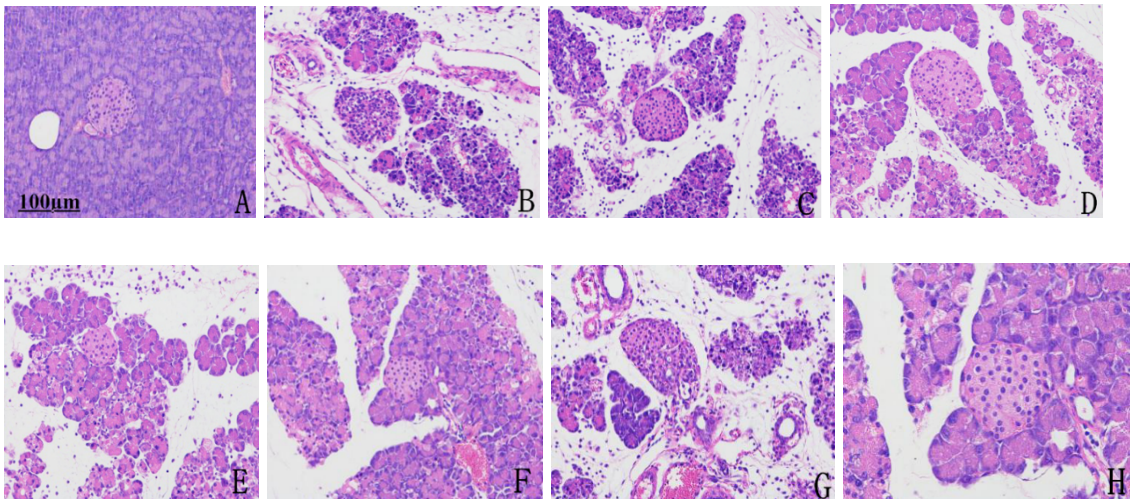

图 1 小鼠胰腺组织病理形态学检查结果（200×）

A：空白对照组 B：造模时间组 6 h C：造模时间组 12 h D：造模时间组 24 h

E：造模时间组 48 h F：造模剂量组 2 g/（kg·bw） G：造模剂量组 4 g/（kg·bw）

H：造模剂量组 6 g/（kg·bw）

3.结 论

试验研究发现 6 h、12 h、24 h、2 g/（kg·bw）、4 g/（kg·bw）、6 g/（kg·bw）各组小鼠的检测指标虽与对照组对比均极显著上升（*P* <0.01），但造模时间为 6 h、给药剂量 4 g/（kg·bw）各项指标达到峰值且稳定，且小鼠存活率较高。因此，当剂量 4 g/（kg·bw），造模时间为 6 h 时，视为最佳造模条件。

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AUTOMATION OF THE FORMATION OF MEDICAL EXAMINATIONS FOR ELECTRONIC MEDICAL HISTORY IN MEDICAL INFORMATION SYSTEMS

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Summary. *This article examines the documentation of medical records on electronic media and suggests the formalization and documentation of medical data in the medical information system for maintaining an electronic medical history. The basic technologies and interface for documenting medical records, the formation of electronic templates for standardization, the design of electronic doctors' examinations and the terminology used are provided. A software solution for the formation of medical records, the structure of the descriptive part of the prepared templates for medical examinations, and the use of special software allowing the procurement of terms in a six level structure are provided. The use of this medical records technology can improve efficiency, standardize the examinations and terminology used, and structure the medical information generated during the doctor's examination to produce a detailed scientific analysis of the many signs of various pathologies for creating a system to support diagnostic decision making.*

The transformations carried out in the public health system of the Republic of Uzbekistan, which have resulted in issues related to information support issues at all levels of the system, constitute the main problem in practical medicine in the country. The significance of this problem is especially relevant in the emergency medicine system. In this regard, the phased transition from paper information technology to electronic information and communication technology in the organization of the treatment and diagnostic process (TDP) is necessary and forms the basis for creating the information infrastructure of a medical institution on which TDP automation, organization and management are based as a whole. At the same time, the status of information becomes a resource, and in emergency medical institutions, it becomes strategic. This in turn requires the ability to quickly obtain necessary information from the patients.

In this vein, it is first necessary to translate the organization of TDPs from intuitive to evidence-based and their management from bureaucratic- to information-based, which requires modern medical information technology, specialised software and technical means of collecting, storing, processing and presenting information to optimize their organization as well as an electronic communication system for importing and exporting this information at the levels of health facilities, regions and, if necessary, industry. TDP is a well-known technology of information interaction both between the attending physician and the patient and among all medical personnel who interact with the patient. Automation of the TDP should not change this basis but should instead develop and improve it to a unique way of handling information. First, it is necessary to automate the interaction between the participants of the TDP and the process of documenting all the steps of this interaction.