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Auto-Laboratory (AL)

by V. Kiktenko

Great Medical Encyclopedia, USSR. 2: 1: 115-117: 1957.

* sanitary-epidemiological laboratory specially equipped on a motor vehicle and intended for processing microbiological health-hygiene analyses and indications of poisonous substances in the field. ()

The first domestic types of the AL were produced in 1936 (on a GAZ*-AA chassis) and in 1940 (on a GAZ-AAA chassis). Both these laboratories possessed basic shortcomings (poor roadability, low road clearance etc.). At present an AL mounted on the motor vehicle, GAZ-63 (Illustrations 1 & 2) is included in the equipment of the Soviet Army Medical Service's units and establishments. The latter type san.-epid. laboratory's construction and outfitting was devised by the Central Science-Research Experimental Institute of Military Medicine, MO, USSR.

The van of the AL is metal with a rear door, side door and windows and is divided into 2 connecting sections: 1) the laboratory in the rear of the van and 2) the sterilization-preparation section in the forward part of the van. The driver's cab does not connect with the laboratory.

The laboratory section is equipped with two (2) tables which are placed along the sides of the van, eight (8) special storage lockers with dividing inserts, two (2) kerosene thermostats, a wash basin, two (2) stools, two (2) desk lamps with 12-volt bulbs and overhead cabinets for housekeeping items and the individual gear of the personnel. The table on the left is intended for microbiological work, and the one on the right for sanitary-hygienic and chemical work. The placement of all items, stowed into the numbered nests of the cubicles in the lockers, is indicated on a special list.

The sterilization-preparation section is equipped with a table, a small autoclave with primus (a Swedish stove burning an air-kerosene mixture - Tr note) heating, a cast iron heating stove, a Pasteur oven, a thermoinsulating box, a tank for drinking water (for 10 liter), cages for animals and a varied housekeeping inventory.

There is a special 12-volt battery for the van lighting and for the fan motor of the exhaust hood. While at a halt the AL's electrical equipment may be plugged into a common electrical system of 127/220 volts.

While moving the AL, the table surfaces are fastened vertically, and the storage lockers are placed in the so-called "transport" position, forming places to sit. For setting up the laboratory, the goods in the storage lockers may be quickly transferred either completely or partially to any setting which better accommodates the laboratory.

The AL's equipment is capable of conducting a collection of material and preliminary investigations for all infections including the group of infections which are particularly dangerous, the viral and rickettsial. More complete investigations for these infections are made later by specialized bacteriological laboratories. When there is suspicion of an infection by the germs of the intestinal group (including the causative agent of cholera), the coccal group, anaerobes, spirochetes or anthrax spores, patients and also environmental objects are subjected to a complete, within the limitations of the AL, bacteriological investigation. From the sanitary-bacteriological and sanitary-hygienic investigations, it is possible to conduct basic analyses of water, air, soil, food products etc., and also to process an indication of toxic materials in water and food products.

As a rule, in the AL for the laboratory diagnosis of infectious diseases and the detection of pathogenic microorganisms in the environment, various accelerated, simplified and early methods are extensively used. The system of work in the AL is determined by the character of the investigations. All working rules are strictly observed in the bacteriological investigations with infected material, live cultures and infected animals.

A Doctor-bacteriologist, a Doctor-hygienist and a laboratory technician work in the AL. One of the doctors is the AL's commander. The driver, while the AL is working at a halt, is required to fulfill the duties of a technical worker. To the AL's personnel, in addition to the laboratory work, falls the responsible task of supervising and controlling the conduct of sanitary-hygienic and antiepidemic measures in the military, conducting medical surveys, consultations and instruction for the medical service of military units on the organization and conduct of sanitary-hygienic and antiepidemic measures. The actual character of the AL's activity is determined by the circumstances and problems placed before the antiepidemic establishments.

Literature

Instruction on the Exploitation of the Sanitary-Epidemiological Laboratory on the Motor Vehicle GAZ-63 (AL), M., 1955; Skvortsov, V. V.

Auto-Laboratory (AL) Encyclopedic dictionary of Military Medicine. vol 1, p. 38. M., 1946.

Illustrations

- #1 - Sanitary-Epidemiological laboratory on the motor vehicle GAZ-63.
- #2 - Position of the sections and equipment within the van.

* - Translator's Note

GAZ - Gor'kovskiy Avtomobil'nyy Zavod (Gorkiy Automobile Plant).