International Conference "ADVANCES IN PNEUMOLOGY"
Poznań, 6 – 7 June, 2008

SAFETY OF REAGENTS FOR INFECTION TESTING: RESULTS OF THE MARKET SURVEILLANCE BY THE BFARM UNTIL THE END 2006

R. Siekmeier[1], J. Halbauer[2], and D. Wetzel[1]

[1]Federal Institute for Drugs and Medical Devices (BfArM), Bonn, Germany; [2]Paul-Ehrlich-Institute, Langen, Germany

The European Directive 98/79/EC on in-vitro diagnostic medical devices (IVD) stipulates the marketing and post market surveillance of IVD in the European Economic Area. In cases of issues and field corrective actions the manufacturers have to inform the responsible Competent Authorities (CA). In Germany, the Federal Institute for Drugs and Medical Devices (BfArM) is the responsible CA for most IVD. Only a small subset of IVD for immune hematological and infectiological testing as well as tissue typing specified in Annex II (Parts A and B) of the Directive is in the responsibility of the Paul-Ehrlich-Institute (PEI).

In this study all notifications regarding reagents for infection testing (e.g., culture media, susceptibility testing, serological testing, and molecular analysis), but not analyzers, received by the BfArM between the beginning of 1999 and the end of 2006 were analyzed with respect to the sources of notification, the underlying product defects, and the corrective actions performed by the manufacturers.

In the observation, a total number of 888 notifications were received from the BfArM. These regarded to professional use products (n=642) and lay use products for self-testing (n=246; e.g., blood glucose and pregnancy). From the professional use products (n=90) reports related to the included IVD for infection testing. Reports were predominantly received from manufacturers (n=55) and CAs (n=29), whereas only few reports came from other sources (e.g., users). The affected products were most frequently those for serological analysis (n=42) and culturing techniques (n=36, including culture media) whereas tests based on molecular means played only a minor role (n=12). The products most frequently served for detection and susceptibility testing of bacteria (n=54) and diagnostics of viruses (n=18). Products for diagnostics of fungi and parasites as well as common culture media were less often affected (n=3, n=2 and n=13, respectively).

Manufacturers were able to identify the underlying root causes of product failures in 68 cases (75.6%). In 16 cases (13 of those were immunological tests) the root cause remained unclear or was not reported to the BfArM (especially at the beginning of the observation period because of other reporting criteria). In the remaining cases, a product failure was excluded by the investigations of the manufacturers (n=4) or a user error was the underlying cause of product failure (n=2). The proven product failures were most frequently caused by material defects (n=25), production errors (n=11) and microbiological contaminations (n=6). Other causes were e.g., labelling error (n=5), miss of specification (n=4), software error (n=4), and incorrect instructions for use (n=3). Based on the underlying causes manufacturers settled corrective actions in 73 cases (81.1%). Corrective actions were also performed for prevention in some cases without product failure. Most frequent corrective measures were (multiple entries) customer information (n=69), recall (n=56; in case of a recall a customer information is mandatory), modifications in production or quality management (n=39), change of the used raw materials (n=17), and modification of the instructions for use (n=11).

The obtained results and experience since 1999 suggest that the regulatory system for post marketing surveillance of IVD is an established tool to ensure product safety. However, the experience shows that the current system should be further optimized e. g. by improving the number of user reports and the availability of the information regarding field corrective actions performed by the manufacturers (e.g., *via* publication on the homepage of the CA as it is performed by the BfArM).