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Use of real-world clinical lab data to reveal Asian NTRK fusion test availability patterns

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Background

The development and launch of first-generation tropomyosin receptor kinase (TRK) inhibitors, such as larotrectinib and entrectinib, has brought targeted treatment options to neurotrophic tropomyosin-related kinase (NTRK) fusion–positive adult and pediatric cancer patients who may have been out of treatment options. Widespread adoption of NTRK fusion testing is needed to support successful selection of patients for these TRK inhibitors as well as other targeted therapies. The objective of this study was to investigate global availability of NTRK fusion testing, with a specific focus on Asia.

Methods

For this study, real-world clinical pathology laboratory data, derived from Diaceutics' proprietary Global Diagnostic Index (GDI) of more than 2500 labs, were investigated to assess the current footprint of NTRK fusion testing in Asia. Availability of clinical routine testing was analyzed in selected cohorts of laboratories across different regions, comparing Asia to the US and Europe. Laboratories were included based on their large volume of testing or on their importance (e.g., large academic and large commercial laboratories).

Results

Data on availability of NTRK fusion testing by clinical laboratories reveal different patterns of NTRK fusion test adoption in Asia, depending on the region under study. In China and similarly in the US, Italy, and France, clinical NTRK fusion testing is already being performed by the majority of laboratories from the selected cohort. In Japan, physicians have limited access to testing, with only a few laboratories from the selected cohort performing testing for NTRK fusions.

Country	Number of top labs under investigation	Number of top labs that perform NTRK fusion testing	Number of top labs that cannot perform NTRK fusion testing
Japan	9	2	7
China	13	7	6
US	30	22	8
Italy	20	12	8
France	20	13	7

Discussion

NTRK fusion testing is essential for identifying patients eligible for first-generation TRK-inhibitors. Various laboratories across selected cohorts of labs in China and Japan lack the capability to initiate clinical NTRK fusion testing in-house, denying some patients the potential benefit from these breakthrough therapies. Consequently, patient outcomes will be suboptimal due to lack of testing infrastructure. The readiness of Asian markets to support patient selection successfully can affect the rate of testing and the impact of these innovative therapies on patients' lives.