Gomekli™ (mirdametinib) – New orphan drug approval

- On February 11, 2025, SpringWorks Therapeutics announced the FDA approval of Gomekli (mirdametinib), for the **treatment of adult and pediatric patients 2 years of age and older with neurofibromatosis type 1 (NF1) who have symptomatic plexiform neurofibromas (PN) not amenable to complete resection**.

- NF1 is a rare genetic disorder that arises from mutations in the NF1 gene. The clinical course of NF1 is heterogeneous and manifests in a variety of symptoms across numerous organ systems, including abnormal pigmentation, skeletal deformities, tumor growth and neurological complications, such as cognitive impairment.

    — NF1 is the most common form of neurofibromatosis, with an estimated global birth incidence of approximately 1 in 2,500 individuals, and there are approximately 100,000 patients living with NF1 in the U.S.

- Gomekli is a small molecule MEK inhibitor.

- The efficacy of Gomekli was established in a single-arm study in 114 patients ≥ 2 years of age with symptomatic, inoperable NF1 associated PN causing significant morbidity. The major outcome measure was confirmed overall response rate (ORR), defined as the percentage of patients with complete response (disappearance of the target PN) or partial response (≥ 20% reduction in PN volume).

    — In adult patients, the ORR was 41% (95% CI: 29, 55). In pediatric patients, the ORR was 52% (95% CI: 38, 65).

- Warnings and precautions for Gomekli include ocular toxicity, left ventricular dysfunction, dermatologic adverse reactions, and embryo-fetal toxicity.

- The most common adverse reactions (> 25%) with Gomekli use in adults were rash, diarrhea, nausea, musculoskeletal pain, vomiting, and fatigue. The most common grade 3 or 4 laboratory abnormality (> 2%) was increased creatine phosphokinase.

- The most common adverse reactions (> 25%) with Gomekli use in pediatric patients were rash, diarrhea, musculoskeletal pain, abdominal pain, vomiting, headache, paronychia, left ventricular dysfunction, and nausea. The most common grade 3 or 4 laboratory abnormalities (> 2%) were decreased neutrophil count and increased creatine phosphokinase.

- The recommended dose of Gomekli is **2 mg/m^2 orally twice daily (approximately every 12 hours) with or without food for the first 21 days of each 28-day cycle**. The maximum dose is 4 mg twice daily. Treatment should be continued until disease progression or unacceptable toxicity.

- SpringWorks Therapeutics plans to launch Gomekli within two weeks. Gomekli will be available as a 1 mg and 2 mg capsule and 1 mg tablet for oral suspension.