There will be approximately 40,000 new cases of small-cell lung cancer this year. Prior to 1990, there were several agents with single-agent response rates of 30% to nearly 90% in the untreated small-cell lung cancer population.

**Introduction**

During the 1990s, several new chemotherapy agents displayed activity in small-cell lung cancer (paclitaxel [Taxol], gemcitabine [Gemzar], vinorelbine [Navelbine], topotecan [Hycamtin], and irinotecan [Camptosar, CPT-11]). A list of new agents is included in Table 2.

**Japanese Studies**

In first- and second-line therapy studies in patients with small-cell lung cancer, response rates with irinotecan have ranged from 50% to between 14% and 47%, respectively. The majority of these studies with irinotecan were conducted in Japan.

A recent randomized phase III trial (JCOG 9511) by the Japan Clinical Oncology Group in 154 patients with extensive-stage small-cell lung cancer compared the combination of irinotecan and cisplatin (Platinol) to standard etoposide and cisplatin.[1] The overall response rate (89% vs 67%; \( P = .013 \)), median survival (420 vs 300 days; \( P = .047 \)), and 1-year survival (60% vs 40%) were superior for patients in the irinotecan-containing arm. Confirmatory phase III trials with the irinotecan/cisplatin combination are being planned in the United States using both the Japanese regimen (irinotecan at 60 mg/m\(^2\) days 1, 8, and 15, plus cisplatin at 60 mg/m\(^2\) day 1, every 4 weeks) and a regimen in which the schedule is modified to irinotecan at 65 mg/m\(^2\) days 1 and 8, plus cisplatin at 30 mg/m\(^2\) days 1 and 8, every 3 weeks.

The US experience thus far has been limited to a single multi-institution trial involving patients with previously treated small-cell lung cancer.[2]

**The US Experience**

A total of 44 patients were entered in this study, with patient stratification determined by response to prior therapy. Sensitive patients (n = 17) previously achieved a complete response/partial response, and relapsed greater than 3 months after completion of initial therapy. All other patients (n = 27) were considered refractory. Treatment consisted of irinotecan at 125 mg/m\(^2\) (over 90 minutes) weekly for 4 weeks, followed by a 2-week rest period (one course). Treatment continued until disease progression. Patient characteristics were as follows: median age, 60 years (range: 45 to 78 years); 68% males; and performance status 60 to 70 (25%), 80 to 100 (75%).

**Toxicities**

Toxicities included two potentially drug-related deaths (sepsis and a central nervous system event).
Hematologic toxicity was mild with 20% grade 3 neutropenia, 7% grade 4 neutropenia, and one episode of neutropenic fever (2.2%). Nonhematologic toxicity was also mild with grade 3/4 late diarrhea occurring in 26.6% of patients (see Table 3).

Responses

Responses were seen in seven patients (one complete response) for a response rate of 15.9%. Responses occurred in 6/17 sensitive patients (35.3%) and in 1/27 refractory patients (3.7%). Overall time to treatment failure was 2.3 months (sensitive, 3.4 months; refractory, 1.3 months), and overall survival was 4.8 months (sensitive, 5.9 months; refractory, 2.8 months). The results are presented in Table 4.

Conclusion

In conclusion, irinotecan is an active and well-tolerated agent in patients with sensitive relapsed small-cell lung cancer. Studies of irinotecan combinations in patients with previously untreated small-cell lung cancer are ongoing.

References:


Source URL:
http://www.cancernetwork.com/review-article/irinotecan-small-cell-lung-cancer-us-experience

Links:
[1] http://www.cancernetwork.com/review-article
[3] http://www.cancernetwork.com/authors/alan-b-sandler-md