

EFFICACY OF VEMURAFENIB IN RELAPSED/REFRACTORY HAIRY CELL LEUKEMIA: A SYSTEMATIC REVIEW AND META-ANALYSIS

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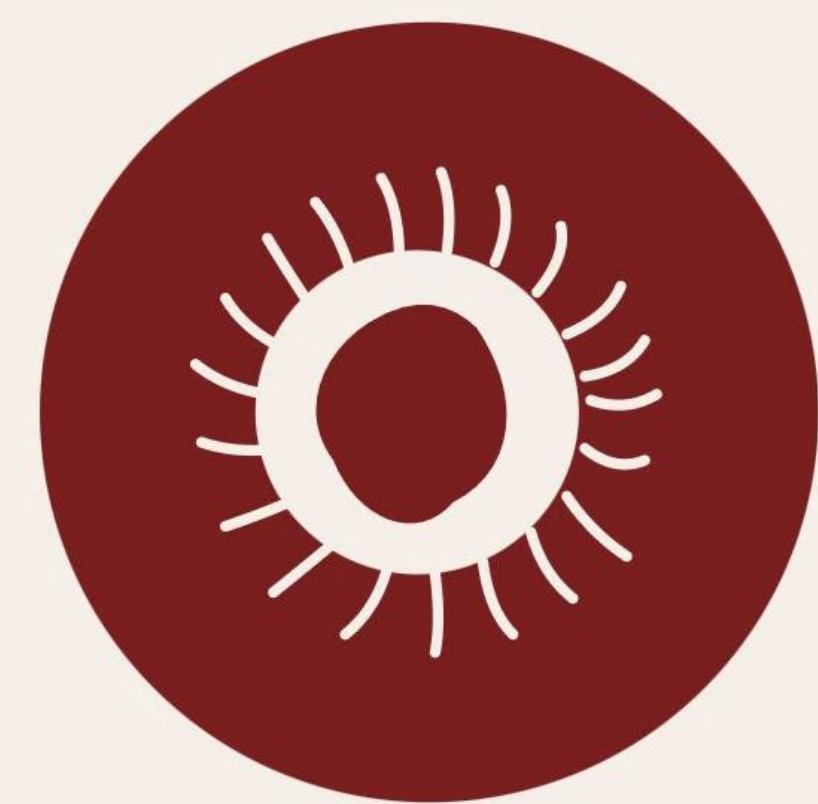
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INTRODUCTION



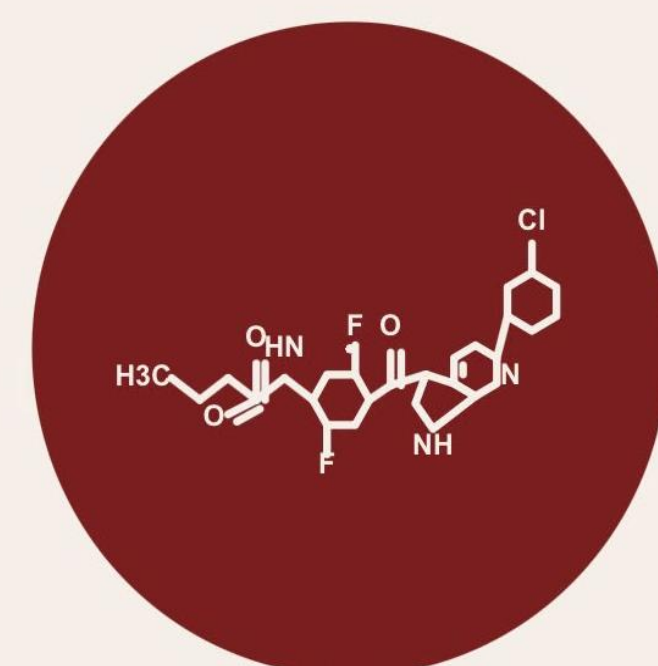
Hairy cell leukemia is a chronic indolent B-cell lymphoma that can present symptomatically with cytopenias and splenomegaly

Purine analogs- cladribine and pentostatin, are the first-line treatment for hairy cell leukemia. A single course achieves very high complete response rates but leaves patients vulnerable to infectious complications.

However, relapsed and refractory cases do not respond well to purine analogs.

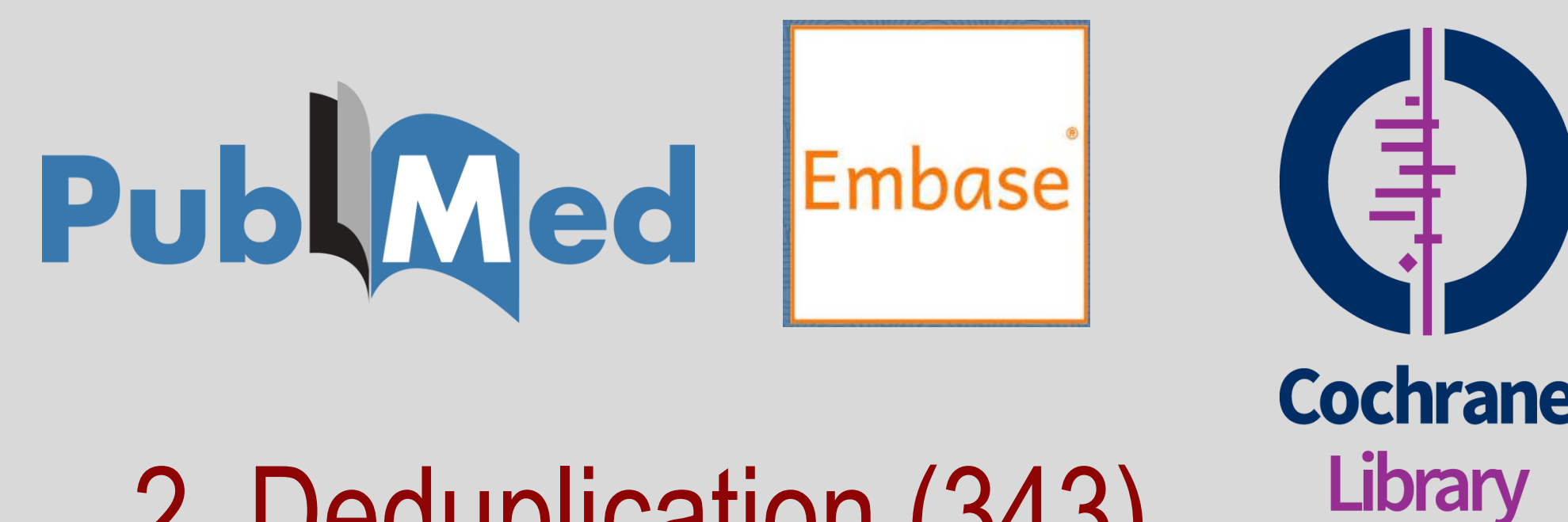
The identification of the **BRAF V600E mutation** has established a novel therapeutic target in hairy cell leukemia .

Vemurafenib, an oral BRAF inhibitor used to treat late-stage melanoma and Erdheim-Chester disease, has been evaluated in several prospective studies. We therefore conducted a meta-analysis to summarize the available evidence



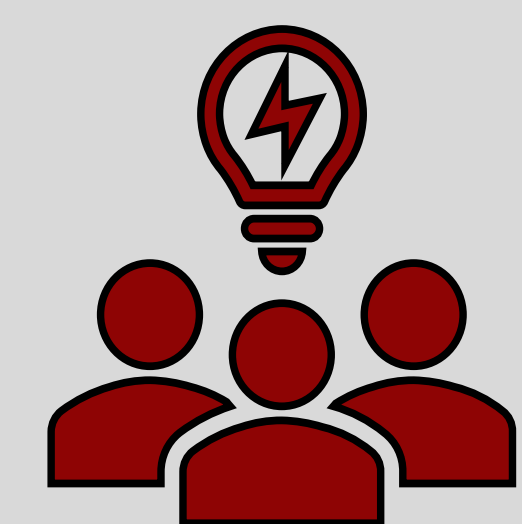
METHODOLOGY

1. Systematic Search (378)



2. Deduplication (343)

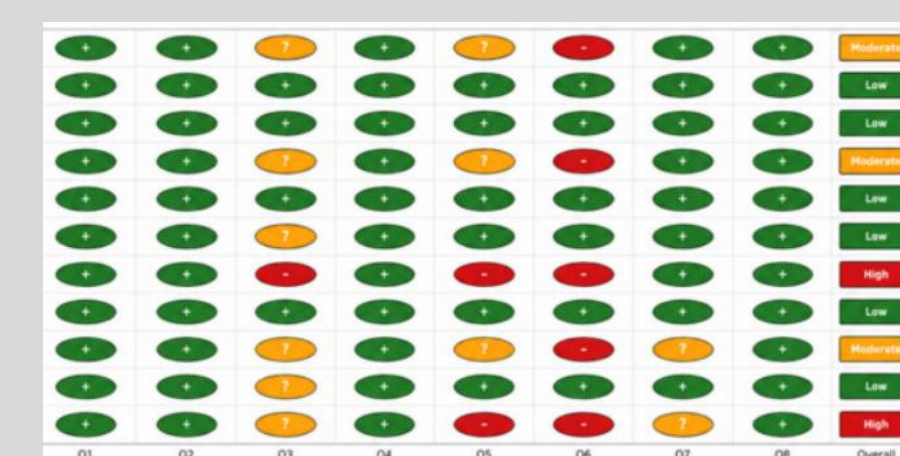
3. Title & Abstract Screening



4. Full Text Screening

5. Data Extraction (7)

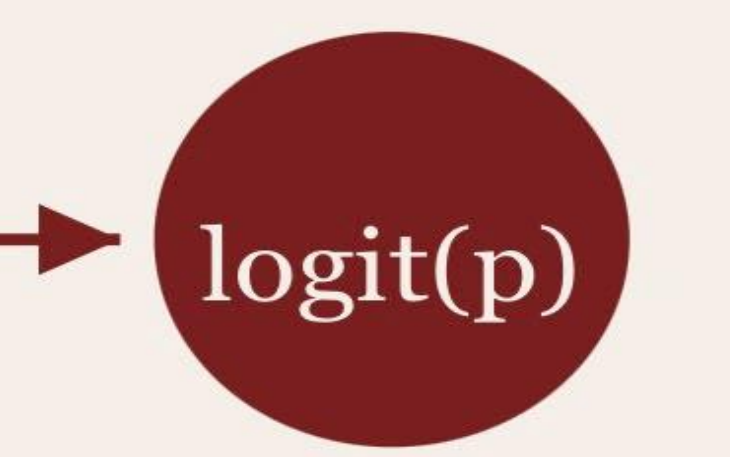
6. Risk of Bias



7. Analysis



Random-Effects
Restricted Maximum
Likelihood (REML)



Logit Transformation
Results back-transformed



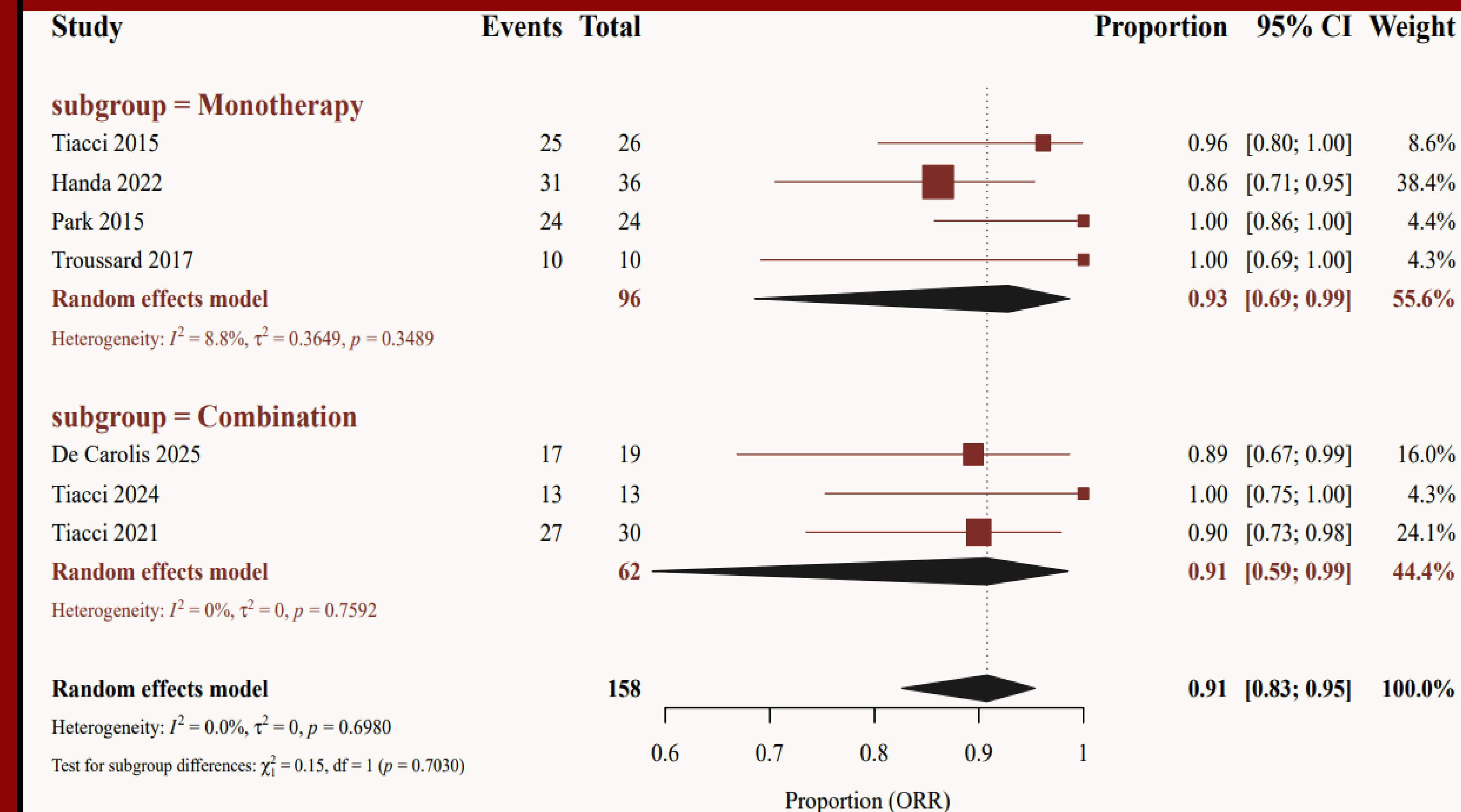
Subgroup
Monotherapy vs.
Combination Therapy



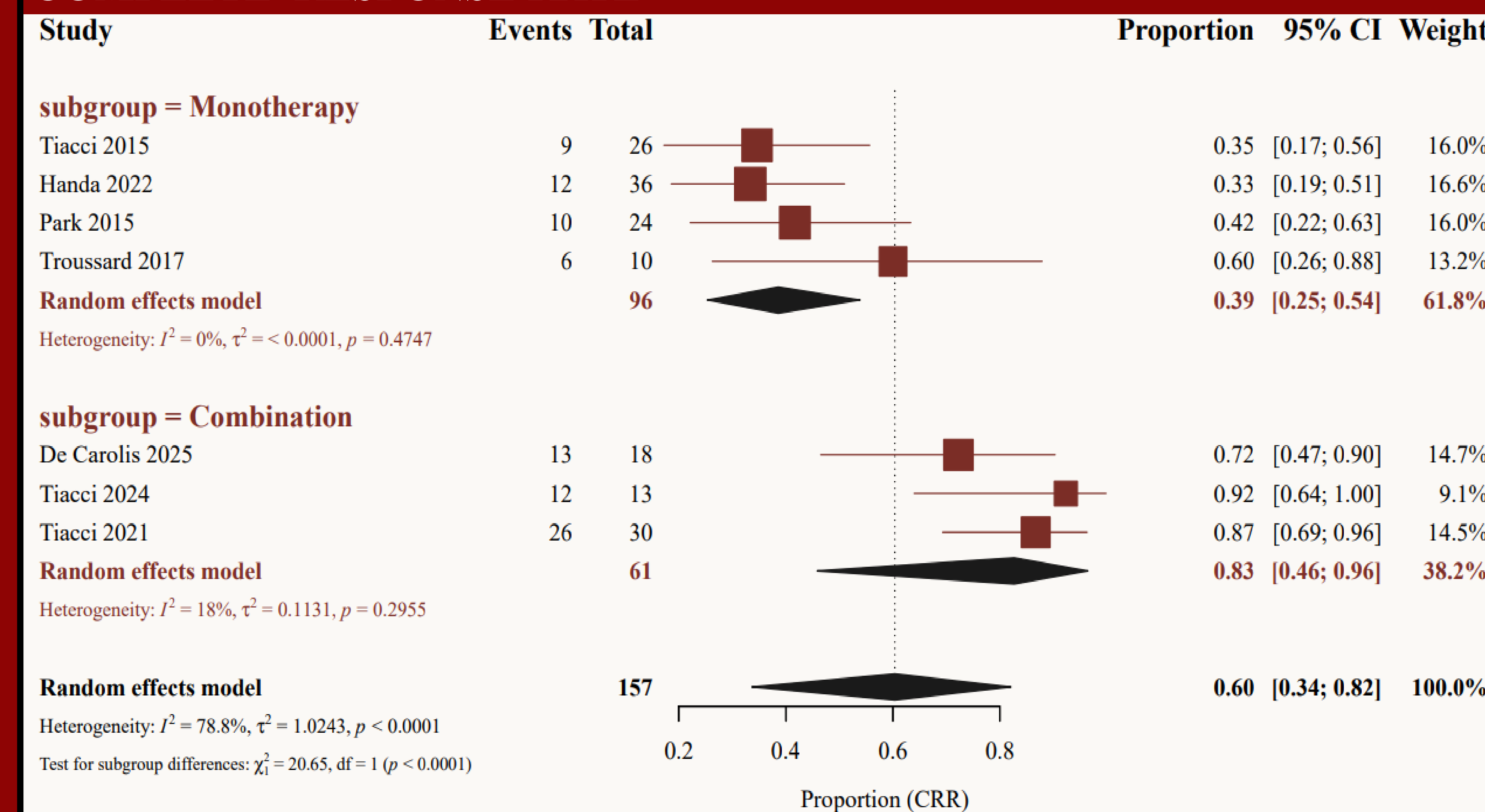
Heterogeneity
Cochran's Q and I²

RESULTS

OVERALL RESPONSE RATE



COMPLETE RESPONSE RATE

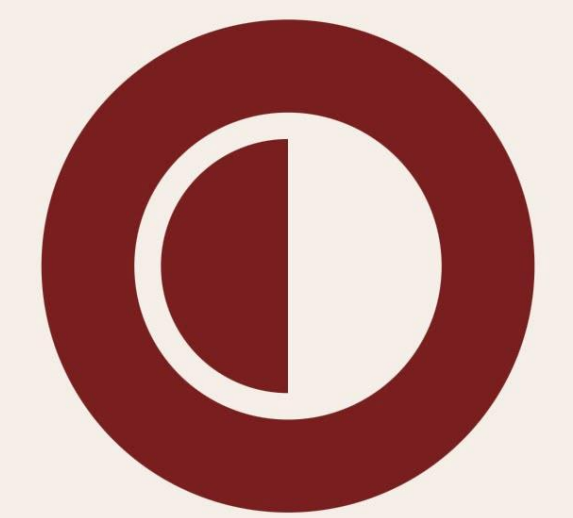


CONCLUSIONS



Strong Overall Response

Overall Response Rate for vemurafenib is high (>91%) and consistent whether used alone or in combination



Modest Complete Response

Complete Response Rates showed substantial heterogeneity across studies



Combination Therapy Drives Deeper Responses

Combination regimens were associated with substantially higher complete response compared to monotherapy