

ECONOMIC EVALUATION OF CAPSAICIN PATCH 8% IN THE TREATMENT OF NEUROPATHIC PAIN IN AUSTRIA

C. Brennig^a, V. Schöllbauer^a, E. Walter^a

^aIPF Institute for Pharmacoeconomic Research, Vienna

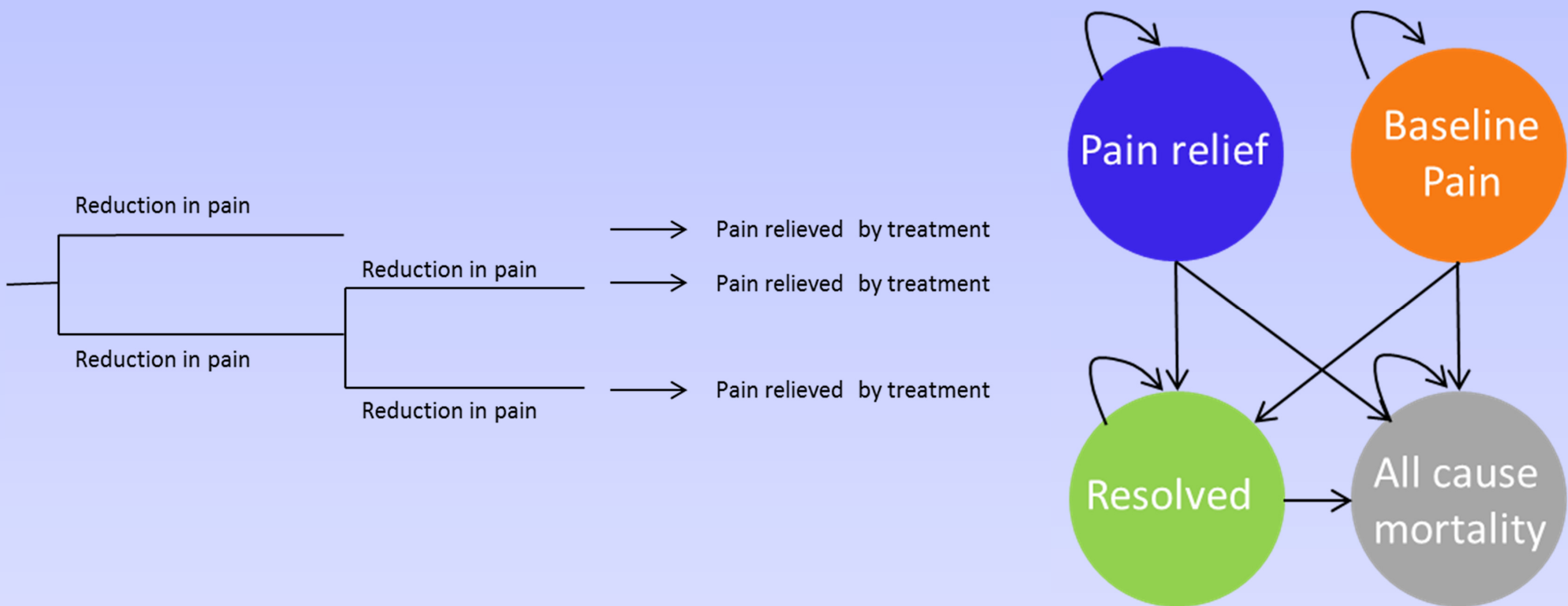
Introduction

About 5% of the population (400,000 in Austria) suffer from neuropathic pain. 50% of them denominate their pain as “very strong”. Neuropathic pain patients consult on average 5 different doctors before the main diagnosis is found. The aim of this study was to evaluate the cost-effectiveness of treatment of neuropathic pain with topical Capsaicin Patch 8% versus current standard of care (Pregabalin) in Austria.

Methodology

The analysis was performed using a Decision Tree Model (1st year) combined with a Markov model adapted for Austria. The model is based on an indirect comparison (C108 CSR, C110 CSR, C116 CSR, C117 CSR Astellas data on file, Sabatowski 2004, Dworkin et al. 2003), which results in a conservative estimation, as the efficacy of Capsaicin patch 8% is underestimated due to a large placebo effect. Efficacy assessment was based on the outcome measure QALY. Costs were captured for the year 2011. Resource use was determined by literature research and expert opinion and accurately reflects the Austrian treatment path. The study time horizon was 5 years. There is no significant difference of adverse event probability between the two alternatives; therefore adverse events have not been included. The analysis was performed from the perspective of social health insurance. The analysis was conducted according to Austrian Guidelines for Health Economic Evaluations. The discount rate was 5% for costs and outcomes. The model structure is shown within Fig. 1.

Fig. 1: Model Structure



Source: Astellas 2010

Resource Use and Cost

Direct costs comprise resource use as a result of treatment or therapy directly attributable to this specific treatment or therapy. Resource use was determined by experts and literature search. Patients receive either Capsaicin 8% patch or Pregabalin. Third line therapy in Austria according to treatment guidelines and expert opinion is duloxetine. Patients suffering from neuropathic pain consult their pain specialist on average 4.5 times per quarter, patients under third line duloxetine therapy additionally 3.6 times. These resource use has been linked to cost parameters. Costs are from Austrian tariff catalogues and official price lists. Medication costs represent social health insurance prices.

Results

The results are shown for a time horizon of 5 years. The cost per patient (30% pain reduction) for Capsaicin patch 8% amount to €4,898 for a time horizon of 5 years and to €4,745 for Pregabalin. Treatment with capsaicin patch 8% leads to 3.011 QALYs, treatment with Pregabalin to 2.964 QALYs with a QALY gain of 0.065 for Capsaicin Patch 8%. The ICER values €2,358. Results are shown within Table 1.



CONTACT:
Christine Brennig
Institut für Pharmaökonomische Forschung
Wolfengasse 4/7
1010 Wien
Austria
Tel.: 0043/1/513 20 07
Web: www.ipf-ac.at

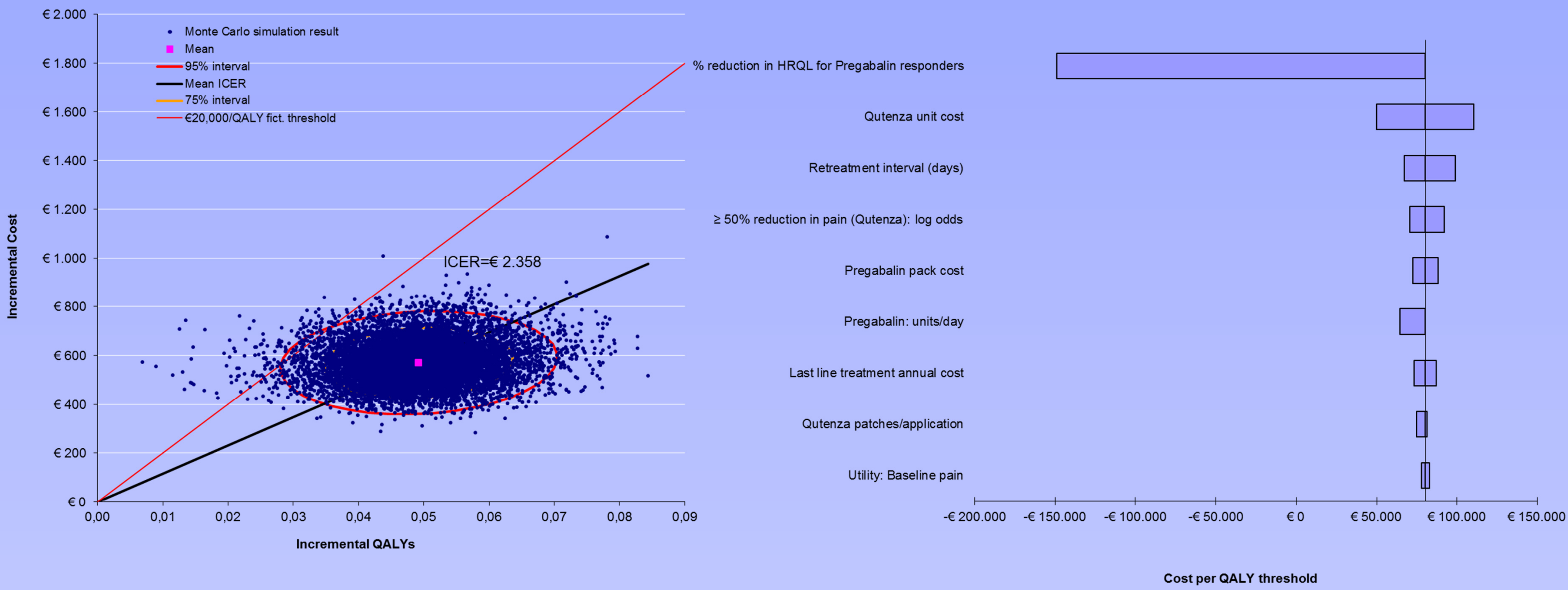
Table 1: Results in €

Strategy	Cost C	Difference Cost ΔC	Outcome QALYs	Difference QALYs ΔE	Inkremental C/E ICER
30% reduction in NPRS					
Time Horizon: 5 years					
Capsaicin Patch 8%	4,898		3.011		2,358
Pregabalin	4,745	153	2.946	0.065	

Source: IPF own calculations

The scatter plot shows that most of simulation results are arranged within the upper quadrant on the right hand side. As there is no threshold defined in Austria, most of simulation results are below the fictive willingness to pay threshold of €20,000/QALY. The overall results of the probabilistic as well as the deterministic sensitivity analysis show the robustness of the model and are shown within Fig. 2.

Fig. 2: probabilistic and deterministic Sensitivity Analysis



Source: IPF own calculations

Within a scenario analysis it could be shown that a switch of the base case markov model population treated with Capsaicin 8% patch to the setting of treating only responders (therapy is initiated within hospital outpatient departments) in the ambulant setting leads to the following monetary impact for the Austrian social health insurance (see Table 2).

Table 2: Scenario Analysis – Impact for Social Health Insurance in EUR

	Non-Responder and Responder in ambulant setting*	Only Responder in ambulant setting	IMPACT for Social Health Insurance
1st year	143,452	11,759	131,694
2nd year	87,400	35,200	52,200
3rd year	71,100	28,644	42,456
4th year	57,600	23,232	34,368
5th year	46,600	18,788	27,812

*base case patient population

Source: IPF own calculations

Conclusion

Neuropathic pain is a severe condition and leads to an immense deterioration in quality of life of patients. Every person conernced consults on average 5 different specialists before diagnosis. Therapy is manifold and hast to be adapted to every patient individually. In Austria, the treatment of neuropathic pain with Capsaicin Patch 8% is a cost-effective alternative compared to Pregabalin from the perspective of the Austrian social health insurance.

Literature

BUCHER H.C., GUYATT G.H., GRIFFITH L.E., et al., The results of direct and indirect treatment comparisons in meta-analysis of randomized controlled trials, in: J Clin Epidemiol 50, 1997
Burgenländische Gebietskrankenkasse (BGKK): Tarife für Vertragsärzte, 2010
C108 CSR: A randomized, double-blind, controlled dose finding study of NGX-4010 for the treatment of postherpetic neuralgia, Astellas Data on File
C110 CSR: A randomized, double-blind, controlled study of NGX-4010 for the treatment of postherpetic neuralgia, Astellas Data on File
C116 CSR: A randomized, double-blind, controlled study of NGX-4010 for the treatment of postherpetic neuralgia, Astellas Data on File
C117 CSR: A multicenter randomized, double-blind, controlled study of NGX-4010 for the treatment of postherpetic neuralgia, Astellas Data on File
DWORKIN R.H., CORBIN A.E., YOUNG J.P., et al., Pregabalin for the treatment of postherpetic neuralgia – A randomized, placebo-controlled trial, in: Neurology 60, 2003
Fachinformation Lyrica®, www.ami-info.at, 2011
Fachinformation Qutenza®, Astellas GmbH, 2011
Niederösterreichische Gebietskrankenkasse (NÖGKK): Tarife für Vertragsärzte, 2006
Oberösterreichische Gebietskrankenkasse (OÖGKK): Arbeitsbehelf Honorarordnung für Ärzte für Allgemeinmedizin und Fachärzte, 2005
OÖGKK, JESCHOW M.; Die medikamentöse Therapie des neuropathischen Schmerzes, in: Ökonomie der Praxis, Forum Gesundheit, 4/06, 2006
RIEDER A., DORNER T., GUSTORFF B., SCHWARZ F., LIKAR R., BARKER R., KOBER A., BENG K. L.; Bericht Epidemiologie Neuropathischer Schmerzen in Österreich, o. J.
SABATOWSKI R., GALVEZ R., CHERRY D.A., et al., Pregabalin reduces pain and im-proves sleep and mood disturbances in patients with post-herpetic neuralgia: re-sults of a randomised, placebo-controlled clinical trial, in: Pain 109, 2004
Salzburger Gebietskrankenkasse (SGKK): Tarife für Vertragsärzte, 2010
SCHÖFFSKI O., SCHULENBURG J.-M. Graf v.d., Gesundheitsökonomische Evaluati-onen, 2008
SHAW J., New Product Assessment Form, NHS Scotland, 2010
Statistik Austria, Sterbetafel für Österreich 2000/2002, http://www.statistik.at
Steiermärkische Gebietskrankenkasse (STGKK): Satzung 2003 der Steiermärki-schen Gebietskrankenkasse, 2006
Tiroler Gebietskrankenkasse (TGKK): Honorarordnung für Ärzte für Allgemeime-dizin und Fachärzte, 2006
Wagner T., Number of Patches used during treatment, Klinik für Schmerztherapie und Palliativmedizin, Medizinisches Zentrum Städteregion Aachen, Astellas Data on File, 2011
Walter E., Österreichische Guidelines zur gesundheitsökonomischen Evaluation, in: Pharmacoeconomics – German Research Articles 4(2): 55-63, 2006
Wiener Gebietskrankenkasse (WGKK): Tarife für Vertragsärzte, 2009

For additional literature please contact the authors.