IQWiG Reports – Commission No. A18-54

Bosutinib (pretreated chronic myelogenous leukaemia) –

Benefit assessment according to §35a Social Code Book V[1]

Extract

[1] Translation of the executive summary of the dossier assessment *Bosutinib (vorbehandelte chronische myeloische Leukämie) – Nutzenbewertung gemäß § 35a SGB V* (Version 1.0; Status: 28 November 2018). Please note: This document was translated by external translators and is provided as a service by IQWiG to English-language readers. However, solely the German original text is absolutely authoritative and legally binding.

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IQWiG thanks the medical and scientific advisor for his contribution to the dossier assessment. However, the advisor was not involved in the actual preparation of the dossier assessment. The responsibility for the contents of the dossier assessment lies solely with IQWiG.

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Executive summary of the benefit assessment

Background

In accordance with §35a Social Code Book (SBG) V, the Federal Joint Committee (G-BA) commissioned the Institute for Quality and Efficiency in Health Care (IQWiG) to assess the benefit of the drug bosutinib. The assessment is based on a dossier compiled by the pharmaceutical company (hereinafter referred to as the "company"). The dossier was sent to IQWiG on 30 August 2018.

Research question

The aim of this report is to assess the added benefit of bosutinib in comparison with the appropriate comparator therapy (ACT) in adults with Philadelphia chromosome-positive chronic myeloid leukaemia (Ph^+ CML) in the chronic phase, accelerated phase, or blast crisis who were pretreated with at least 1 tyrosine kinase inhibitor (TKI) and for whom imatinib, nilotinib and dasatinib are not considered suitable treatment options.

The ACT specified by the G-BA served as the basis for the research questions presented in Table 2.

Table 2[2]: Research questions of the benefit assessment of bosutinib

Research question	Indication	ACT[a]
	Adults with Ph^+ CML who were pretreated with at least 1 TKI and for whom imatinib, nilotinib, and dasatinib were not considered appropriate treatment options	
1	Adults in the chronic phase of the disease	
1a	for whom ponatinib is an option	Ponatinib
1b	for whom ponatinib is not an option	Interferon alpha
2	Adults in the accelerated phase and in the blast crisis phase of the disease	Ponatinib[b]

a: Presentation of the respective ACT specified by the G-BA.
b: For patients in the accelerated phase or in blast crisis, the option of inducing remission with subsequent allogeneic stem cell transplantation was to be investigated in both study arms.
ACT: appropriate comparator therapy; G-BA: Federal Joint Committee; Ph^+ CML: Philadelphia chromosome-positive chronic myeloid leukaemia; TKI: tyrosine kinase inhibitor

The company followed the G-BA's specification of the ACT.

The assessment was conducted by means of patient-relevant outcomes on the basis of the data provided by the company in the dossier.

[2] Table numbers start with "2" as numbering follows that of the full dossier assessment.

Results

The company assessed the added benefit of bosutinib in consideration of the results of the 1-arm pivotal study 3160A4-200-WW. Since the company did not present any results on the ACT, it is not possible to derive an added benefit of bosutinib in comparison with the ACT.

This results in no hint of added benefit of bosutinib in comparison with the ACT for any of the research questions; an added benefit is therefore not proven. This conclusion coincides with the company's assessment.

Probability and extent of added benefit, patient groups with therapeutically important added benefit[3]

Table 3 presents a summary of the probability and extent of the added benefit of bosutinib.

Table 3: Bosutinib – probability and extent of added benefit

Research question	Indication	ACT[a]	Probability and extent of added benefit
	Adults with Ph^+ CML who were pretreated with at least 1 TKI and for whom imatinib, nilotinib, and dasatinib were not considered appropriate treatment options		
1	Adults in the chronic phase of the disease		
1a	for whom ponatinib is an option	Ponatinib	Added benefit not proven
1b	for whom ponatinib is not an option	Interferon alpha	Added benefit not proven
2	Adults in the accelerated phase or in the blast crisis phase of the disease	Ponatinib[b]	Added benefit not proven

a: Presentation of the respective ACT specified by the G-BA.
b: For patients in the accelerated phase or in blast crisis, the option of inducing remission with subsequent allogeneic stem cell transplantation was to be investigated in both study arms.
ACT: appropriate comparator therapy; G-BA: Federal Joint Committee; Ph^+ CML: Philadelphia chromosome-positive chronic myeloid leukaemia; TKI: tyrosine kinase inhibitor

The G-BA decides on the added benefit.

Supplementary note

The result of the assessment deviates from the G-BA's assessment issued in the context of the market launch in 2013. In the latter, the G-BA had found a non-quantifiable added benefit of

[3] On the basis of the scientific data analysed, IQWiG draws conclusions on the (added) benefit or harm of an intervention for each patient-relevant outcome. Depending on the number of studies analysed, the certainty of their results, and the direction and statistical significance of treatment effects, conclusions on the probability of (added) benefit or harm are graded into 4 categories: (1) "proof", (2) "indication", (3) "hint", or (4) none of the first 3 categories applies (i.e., no data available or conclusions 1 to 3 cannot be drawn from the available data). The extent of added benefit or harm is graded into 3 categories: (1) major, (2) considerable, (3) minor (in addition, 3 further categories may apply: non-quantifiable extent of added benefit, added benefit not proven, or less benefit). For further details see [1,2].

bosutinib for the present indication. However, in that assessment, the added benefit was considered to be proven by the approval on the basis of the special orphan drug status, regardless of the underlying data.

References for English extract

Please see full dossier assessment for full reference list.

1. Institute for Quality and Efficiency in Health Care. General methods: version 5.0 [online]. 10 July 2017 [Accessed: 4 June 2018]. URL: https://www.iqwig.de/download/General-Methods_Version-5-0.pdf.

2. Skipka G, Wieseler B, Kaiser T, Thomas S, Bender R, Windeler J et al. Methodological approach to determine minor, considerable, and major treatment effects in the early benefit assessment of new drugs. Biom J 2015; 58(1): 43-58

The full report (German version) is published under https://www.iqwig.de/en/projects-results/projects/drug-assessment/a18-54-bosutinib-pretreated-chronic-myelogenous-leukaemia-benefit-assessment-according-to-35a-social-code-book-v.10487.html.