Cyclophosphamide

【IEND】Endoxan ® 200mg/Vial *ATC Code：L01AA01*

中文名： 癌得星注射劑 «Baxter»

適應症： 淋巴性白血病、散發性腫瘤、慢性淋巴性白血病、骨髓性淋巴病、淋巴肉芽腫及各種網狀組織細胞增多症、防止腫瘤復發。

藥理分類： **Antineoplastic Agent, Alkylating Agent (Nitrogen Mustard); Antirheumatic, Miscellaneous; Immunosuppressant Agent.**

用法用量： **U.S. labeling: Malignancy:**

IV: 40 to 50 mg/kg in divided doses over 2 to 5 days or 10 to 15 mg/kg every 7 to 10 days or 3 to 5 mg/kg twice weekly

Oral: 1 to 5 mg/kg/day (initial and maintenance dosing)

Canadian labeling: Malignancy:

IV: Initial: 40 to 50 mg/kg (1500 to 1800 mg/m^2) administered as 10 to 20 mg/kg/day over 2 to 5 days; Maintenance: 10 to 15 mg/kg (350 to 550 mg/m^2) every 7 to 10 days or 3 to 5 mg/kg (110 to 185 mg/m^2) twice weekly

Oral: Initial 1 to 5 mg/kg/day (depending on tolerance); Maintenance: 1 to 5 mg/kg/day

Indication specific and/or off-label uses/dosing:

Acute lymphoblastic leukemia (off-label dosing): Multiple-agent regimens:

Hyper-CVAD regimen: IV:

300 mg/m^2 over 3 hours (with mesna) every 12 hours for 6 doses on days 1, 2, and 3 during odd-numbered cycles (cycles 1, 3, 5, 7) of an 8-cycle phase (Kantarjian, 2004)

CALGB8811 regimen: IV:

Adults < 60 years: Induction phase: 1200 mg/m^2 on day 1 of a 4-week cycle; Early intensification phase: 1000 mg/m^2 on day 1 of a 4-week cycle (repeat once); Late intensification phase: 1000 mg/m2 on day 29 of an 8-week cycle (Larson, 1995)

Adults ≥ 60 years: Induction phase: 800 mg/m^2 on day 1 of a 4-week cycle; Early intensification phase: 1000 mg/m^2 on day 1 of a 4-week cycle (repeat once); Late intensification phase: 1000 mg/m^2 on day 29 of an 8-week cycle (Larson, 1995)

Breast cancer (off-label dosing):

AC regimen: IV:

600 mg/m^2 on day 1 every 21 days (in combination with doxorubicin) for 4 cycles (Fisher, 1990)

CEF regimen: Oral:

75 mg/m^2/day days 1 to 14 every 28 days (in combination with epirubicin and fluorouracil) for 6 cycles (Levine, 1998)

CMF regimen: Oral:

100 mg/m^2/day days 1 to 14 every 28 days (in combination with methotrexate and fluorouracil) for 6 cycles (Levine, 1998) or IV: 600 mg/m^2 on day 1 every 21 days (in combination with methotrexate and fluorouracil); Goldhirsch, 1998)

Chronic lymphocytic leukemia (off-label dosing):

IV: R-FC regimen: 250 mg/m^2/day for 3 days every 28 days (in combination with rituximab and fludarabine) for 6 cycles (Robak, 2010)

Ewing sarcoma (off-label use):

IV: VAC/IE regimen: VAC: 1200 mg/m^2 (plus mesna) on day 1 of a 21-day treatment cycle (in combination with vincristine and doxorubicin [then dactinomycin when

maximum doxorubicin dose reached]), alternates with IE (ifosfamide and etoposide) for a total of 17 cycles (Grier, 2003)

Gestational trophoblastic tumors, high-risk (off-label use):

IV: EMA/CO regimen: 600 mg/m^2 on day 8 of 2-week treatment cycle (in combination with etoposide, methotrexate, dactinomycin, and vincristine), continue for at least 2 treatment cycles after a normal hCG level (Escobar, 2003)

Granulomatosis with polyangiitis (GPA; Wegener granulomatosis) (off-label use; in combination with glucocorticoids):

Low-dose: Oral:

1.5 to 2 mg/kg/day (Jayne, 2003; Stone, 2010) or 2 mg/kg/day until remission, followed by 1.5 mg/kg/day for 3 additional months (de Groot, 2009; Harper, 2012)

Pulse: IV:

15 mg/kg (maximum dose: 1200 mg) every 2 weeks for 3 doses, followed by maintenance pulses of either 15 mg/kg IV (maximum dose: 1200 mg) every 3 weeks or 2.5 to 5 mg/kg/day orally on days 1, 2, and 3 every 3 weeks for 3 months after remission achieved (de Groot, 2009; Harper, 2012)

Hodgkin lymphoma (off-label dosing): IV:

BEACOPP regimen:

650 mg/m^2 on day 1 every 3 weeks (in combination with bleomycin, etoposide, doxorubicin, vincristine, procarbazine, and prednisone) for 8 cycles (Diehl, 2003)

BEACOPP escalated regimen:

1200 mg/m^2 on day 1 every 3 weeks (in combination with bleomycin, etoposide, doxorubicin, vincristine, procarbazine, and prednisone) for 8 cycles (Diehl, 2003)

Multiple myeloma (off-label dosing):

Oral: CyBorD regimen: 300 mg/m^2 on days 1, 8, 15, and 22 every 4 weeks (in combination with bortezomib and dexamethasone) for 4 cycles; may continue beyond 4 cycles (Khan, 2012)

Non-Hodgkin lymphoma (off-label dosing): IV:

R-CHOP regimen:

750 mg/m^2 on day 1 every 3 weeks (in combination with rituximab, doxorubicin, vincristine, and prednisone) for 8 cycles (Coiffier, 2002)

R-EPOCH (dose adjusted) regimen:

750 mg/m^2 on day 5 every 3 weeks (in combination with rituximab, etoposide, prednisone, vincristine, and doxorubicin) for 6 to 8 cycles (Garcia-Suarez, 2007)

CODOX-M/IVAC (Burkitt lymphoma):

Cycles 1 and 3 (CODOX-M): 800 mg/m^2 on day 1, followed by 200 mg/m^2 on days 2 to 5 (Magrath, 1996) or 800 mg/m^2 on days 1 and 2 (Lacasce, 2004), in combination with vincristine, doxorubicin, and methotrexate; CODOX-M alternates with IVAC (etoposide, ifosfamide, and cytarabine) for a total of 4 cycles

Lupus nephritis (off-label use):

IV: 500 mg once every 2 weeks for 6 doses or 500 to 1000 mg/m^2 once every month for 6 doses (Hahn, 2012) or 500 to 1000 mg/m^2 every month for 6 months, then every 3 months for a total of at least 2.5 years (Austin, 1986; Gourley, 1996)

Small cell lung cancer (SCLC), refractory (off-label use):

IV: 1000 mg/m^2 (maximum: 2000 mg) on day 1 every 3 weeks (in combination with doxorubicin and vincristine) until disease progression or unacceptable toxicity (von Pawel, 1999)

Stem cell transplant conditioning (off-label use): IV:

Nonmyeloablative transplant (allogeneic):

750 mg/m^2/day for 3 days beginning 5 days prior to transplant (in combination

with fludarabine) (Khouri, 2008)

Myeloablative transplant:

100 mg/kg (based on IBW, unless actual weight < 95% of IBW) as a single dose 2 days prior to transplant (in combination with total body irradiation and etoposide) (Thompson, 2008)

50 mg/kg/day for 4 days beginning 5 days before transplant (with or without antithymocyte globulin [equine]) (Champlin, 2007)

50 mg/kg/day for 4 days beginning 5 days prior to transplant (in combination with busulfan) (Cassileth, 1993)

60 mg/kg/day for 2 days (in combination with busulfan and total body irradiation) (Anderson, 1996)

1800 mg/m^2/day for 4 days beginning 7 days prior to transplant (in combination with etoposide and carmustine) (Reece, 1991)

禁　　忌：　Cylcophosphamide 過敏者、骨髓功能嚴重受損者（尤其是曾以 cytotoxic agent 治療或接受放射性治療的病人）、膀胱炎、尿道阻塞、感染症 (active infections) 、懷孕及授乳期。

不良反應：　噁心、嘔吐、厭食、腹瀉、便秘、黏膜發炎、出血性膀胱炎、血尿、禿髮、手 掌/指甲/腳掌的色素改變。

注意事項：　1.輸注時間視容量而定，一般為 30 分鐘至 2 小時。
2.配製後安定性：冷藏 24 小時。

懷 孕 期：　1.Cyclophosphamide 會通過胎盤障壁。
2.Cyclophosphamide 治療會引起遺傳毒性效應，因此孕婦施打時可能會對胎兒造成傷害。在第一孕期接受 Cyclophosphamide 治療的母親，曾有產下的孩子出現畸形之通報。子宮內暴露於 Cyclophosphamide 之下可能造成流產、胎兒生長遲滯，以及新生兒出現胎兒毒性效應。
3.如果在懷孕期間使用 Cyclophosphamide，或者患者在服用此藥期間或治療後懷孕，應告知患者此藥對胎兒的潛在危害。

授 乳 期：　1.Cyclophosphamide 會進入母乳中；由接受 Cyclophosphamide 治療之女性哺乳的孩童，曾通報發生嗜中性白血球減少、血小板減少、血紅素偏低及腹瀉。
2.女性在 Cyclophosphamide 治療期間不得哺乳。

配　　製：　1.將 10mL NS 加入小瓶內，劇烈搖晃後，藥物即可完全溶解。如果無法立即且完全溶解，可將溶液靜置數分鐘。此溶液適合經由靜脈投與，尤其是靜脈輸注。
2.短期靜脈輸注：將製備好的 Endoxan 溶液加入 Ringer's solution, saline 或是 dextrose solution，總容量為 500ml。 輸注時間視容量而定，一般為 30 分鐘至 2 小時。

安 定 性：　添加溶劑調配後之溶液應於 24 小時內使用(儲存溫度不得高於 8℃) 。

儲　　存：　Endoxan 儲存溫度不得高於 25 ℃。

備　　註：　本院目前只有針劑。(2020, 02)