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ACUTE LEUKEMIA (AL) AND PREGNANCY: A SINGLE-INSTITUTION EXPERIENCE

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INTRODUCTION

- AL and pregnancy is rare with a reported incidence of 1/75,000-100,000
- There is limited data on pregnant patients with acute leukemia (AL)

AIMS

- To analyse maternal and fetal outcomes of pregnant AL patients treated at our institution
- By understanding maternal and fetal outcomes, optimize the management of pregnant patients with AL

METHOD

- We performed a single-center retrospective review of 6 pregnant patients with AL treated at Memorial Hermann Hospital, Texas Medical Center (see **Table 1** for full demographics)
- The following variables were collected: age, race, disease pathology, weeks of gestation, treatment and outcome

RESULTS

Table 1: Demographics, Treatment and Outcomes for Pregnant Acute Leukemia Patients (As of August 2023)

Case	Age	Race	Disease	Weeks Gestation	Induction Regimen	Response to Induction	Consolidation Therapy	Maternal Outcomes	Fetal Outcome
1	20	African American	T cell ALL	32	Delivery followed by HyperCVAD	Complete Response	(Transferred care to another facility; unknown)	Alive and in complete remission	Survived
2	29	Hispanic	B cell ALL	22	HyperCVAD	Refractory disease	Salvage therapy: blinatumumab → Complete Response	Alive and in complete remission	Survived
3	31	African American	AML, FLT3+	32	FLAGIDA + gilteritinib	Complete Response	FLAGIDA Consolidation: 5 cycles. In complete remission (CR)	Death from septic shock	Survived
4	26	White	T cell ALL	12	HyperCVAD	Complete Response	HyperCVAD. Relapsed during consolidation.	Death from relapsed/ refractory disease	Survived
5	21	African American	AML, FLT3+	17	FLAG-GO	Complete Response	FLAG-GO consolidation x 3 cycles. In complete remission (CR)	Alive and in complete remission	Survived
6	23	Asian	APML	25	None	N/A	N/A	Death within 48 hours of admission from massive intracranial hemorrhage	Death

Regimens:

HyperCVAD:

Cyclophosphamide 300mg/m^2 every 12 hours D1-3

Vincristine 2mg D4

Doxorubicin 50mg/m^2 D4

Dexamethasone 40mg D1-4

Methotrexate (HyperCVAD Part B) contraindicated due to known fetal toxicity.

FLAGIDA:

Fludarabine 30mg/m^2 D1-5

Cytarabine 1500mg/m^2 D1-5

Idarubicin 8mg/m^2 D3-5

Filgrastim 5mcg/kg D6→

FLAG-GO:

Fludarabine 30mg/m^2 D1-5

Cytarabine 1500mg/m^2 D1-5

Gemtuzumab ozogamicin: 3mg/m^2 D1**

Filgrastim 5mcg/kg Day D6→

**Cap dose at 4.5mg. Administer together with ursodiol to prevent VOD/SOS (veno-occlusive disease/ sinusoidal obstruction syndrome).

CONCLUSIONS

- Treating AL during pregnancy is challenging and requires a multidisciplinary team of maternal-fetal medicine and malignant hematology specialists to be able to improve outcomes
- During the first trimester, pregnancy termination followed by conventional induction therapy is recommended
- Standard leukemia intensive chemotherapy regimens can be safely administered during the second or third trimester of pregnancy

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