

**Supplemental Table 1: CEGIR participants**

Given Name	Surname	Given Name	Surname	Given Name	Surname
J.Pablo	Abonia	Sandeep	Gupta	Robert	Newbury
Seema	Aceves	Frank	Hamilton	Quan	Nhu
Samuel	Almonte	Kirk	Harris	Oghenekpaobor (Joel)	Oyibo
Rachel	Andrews	Jennifer	Harris	Allisa	Paliana
Ashley	Arrington	Ikuo	Hirano	Zhaoxing	Pan
Nicoleta	Arva	Girish	Hiremath	Robbie	Pesek
Fred	Atkins	Nicole	Holland-Thomas	Kathryn	Peterson
Dominique	Bailey	Lea	Jacinto	Heidi	Poppendeck
Alexis	Berry	Amir	Kagalwalla	Philip	Putnam
Bridget	Besl	Timothy	Kaseta	Fabian	Rivera
Scott	Bolton	David	Katzka	Marc	Rothenberg
Peter	Bonis	Kaitlin	Keeley	Amanda	Rudman-Spergel
Wendy	Book	Emad	Khosh-Hemmat	Kathleen	Sable
Kimberly	Bray	Paneez	Khoury	Alain	Schoepfer
Teresa	Brown	Eileen	King	Melissa	Scott
Cassandra	Burger	Kara	Kliwer	Rachel	Sheridan
Deirdre	Burke	Amy	Klion	Selma	Sinanovic
Jonathon	Cahoon	Jennifer	Knowles	Jonathan	Spergel
Kelley	Capocelli	Kendra	Kocher	MaryJo	Strobel
Mirna	Cehade	Ellyn	Kodroff	Kiki	Sun
Margaret	Collins	Jeffrey	Krischer	Amy	Tasco
Carla	Davis	Shay	Kyle	Crystal	Tholen
Evan	Dellon	John	Leung	Katherine	Thompson
Maureen	DeMarshall	Meredith	Levy	Tiffany	Tomkinson
Lauren	DiTommaso	Chris	Liacouras	Daisy	Tran
Ranjan	Dohil	Denise	Mack	Alexandra	Tylicki
Michael	Eby	Lisa	Martin	Tiina	Urv
Gary	Falk	Ellen	Martin	Mei-Lun	Wang
David	Fleischer	Talaya	McCright-Gill	Joshua	Wechsler
Heather	Foote	Paul	Menard-Katcher	Barry	Wershil
Kelci	Foss	Calies	Menard-Katcher	Lisa	Wheatley
Joel	Friedlander	Gabriela	Mendoza	Leah	Wilkey
Patricia	Fulkerson	Melissa	Mingler	Guang-Yu	Yang
Glenn	Furuta	Mike	Minnicozzi	Angelika	Zalewski
Debra	Geno	Amanda	Muir	Amy	Zicarelli
Nirmala	Gonsalves	Vincent	Mukkada		
Thomas	Greuter	Cristin	Murray Petzold		

**Supplemental Table 2: Patient Characteristics by CEGIR site**

Institution	Sample Count	Age (Years/SD)	Male (%)	EDP score (SD)	Peak Eosinophil Count per HPF (SD)
Ann & Robert H. Lurie Children's Hospital of Chicago	1	8.4	100%	219	9.00
Children's Hospital Colorado	45	10.9 ( 3.7 )	65%	217 ( 162 )	28.5 ( 33.6 )
Cincinnati Children's Hospital Medical Center	59	13.8 ( 5.1 )	85%	208 ( 159 )	35.6 ( 31.7 )
Rady Children's Hospital San Diego	9	8.4 ( 2.7 )	50%	241 ( 204 )	9.75 ( 12.5 )
The Children's Hospital of Philadelphia	4	10.9 ( 2.5 )	67%	101 ( 248 )	23.0 ( 27.9 )
Tufts University	3	47.6 ( 22.9 )	100%	306 ( 25.2 )	26.0 ( 36.8 )
University of California San Diego	1	67.1	100%	300	13.0
University of Colorado	27	39.5 ( 8.0 )	50%	139 ( 146 )	33.7 ( 25.9 )
University of North Carolina School of Medicine	53	41.2 ( 14.8 )	51%	195 ( 165 )	41.3 ( 48.2 )
University of Pennsylvania	35	38.6 ( 13.7 )	67%	186 ( 156 )	32.0 ( 29.8 )

**Supplemental Table 3: Histologic and Endoscopic Scores by Group.**

		Group I	Group II	Group III	Group IV	Group V
<b>EREFs</b>	<b>Edema</b>	0.53 (0.51)	0.75 (0.44)	0.86 (0.36)	0.94 (0.24)	0.80 (0.42)
	<b>Rings</b>	0.39 (0.72)	0.75 (0.87)	0.51 (0.78)	0.67 (0.84)	0.20 (0.42)
	<b>Exudates</b>	0.39 (0.64)	0.69 (0.75)	0.69 (0.83)	0.78 (0.81)	0.70 (0.82)
	<b>Furrows</b>	0.61 (0.59)	0.97 (0.65)	1.20 (0.72)	0.83 (0.62)	1.40 (0.70)
	<b>Stricture</b>	0.13 (0.34)	0.17 (0.38)	0.09 (0.28)	0.28 (0.46)	0.00 (0.00)
<b>HSS</b>	<b>Eosinophil Inflammation</b>	3.32 (1.85)	3.81 (1.92)	3.37 (2.22)	3.83 (1.86)	4.20 (1.81)
	<b>Basal Zone Hyperplasia</b>	3.45 (2.20)	4.03 (2.25)	3.86 (2.55)	4.17 (1.95)	5.20 (1.93)
	<b>Eosinophil Abscess</b>	0.18 (0.87)	0.14 (0.59)	0.17 (0.57)	0.28 (1.18)	0.00 (0.00)
	<b>Eosinophil Surface Layering</b>	0.42 (1.08)	0.72 (1.16)	0.91 (1.56)	0.39 (0.92)	0.80 (1.32)
	<b>Dilated Intercellular Spaces</b>	3.87 (2.48)	4.14 (2.33)	3.94 (2.65)	4.44 (1.85)	5.00 (1.89)
	<b>Surface Epithelial Alteration</b>	0.68 (1.34)	1.14 (1.53)	1.20 (1.81)	1.17 (1.76)	2.00 (1.83)
	<b>Dyskeratotic Epithelial Cells</b>	0.16 (0.72)	0.36 (0.96)	0.49 (1.38)	0.78 (1.52)	1.50 (2.01)

\*Values are shown as mean (standard deviation).

**Supplemental Table 4: Patient Treatment Status and History by Group**

	Inactive		Group I		Group II		Group III		Group IV		Group V		Total
<b>Ongoing Diet Therapy</b>	50	50%	21	55%	17	47%	17	49%	10	56%	6	60%	<b>121</b>
<b>Oral Systemic Steroids</b>	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	<b>0</b>
<b>PPI</b>	34	34%	17	45%	15	42%	13	37%	7	39%	1	10%	<b>87</b>
<b>Swallowed Topical Steroids</b>	59	59%	21	55%	19	53%	13	37%	7	39%	6	60%	<b>125</b>
<b>History of Steroid Usage</b>	68	68%	28	74%	25	69%	22	63%	14	78%	10	100%	<b>167</b>
<b>Response to Steroid (Symptom)</b>	50	50%	19	50%	15	42%	13	37%	8	44%	8	80%	<b>113</b>
<b>Response to Steroid (Pathology)</b>	44	44%	14	37%	12	33%	12	34%	7	39%	6	60%	<b>95</b>
<b>Disease Duration Mean, Years</b>	5.764	3.64	7.289	7.01	5.698	3.03	6.406	3.79	8.376	5.81	6.343	3.97	
<b>St.Dev.</b>													
<b>Total Samples</b>	<b>100</b>		<b>38</b>		<b>36</b>		<b>35</b>		<b>18</b>		<b>10</b>		<b>237</b>